1951.

QUEENSLAND.

ANNUAL REPORT

ON THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1950-51.

PRESENTED TO PARLIAMENT BY COMMAND.

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1950-51.

The Honourable the Minister for Health and Home Affairs.

Sir,—I have the honour to submit for your information the annual report of the activities of the Health and Medical Services Branch of the Department of Health and Home Affairs during the year ended 30th June, 1951.

Staff.

Dr. J. I. Tonge returned to the Laboratory of Micro-Biology and Pathology having completed his studies under the terms of the scholarship awarded to him by the Rockefeller Foundation.

Dr. V. F. B. Lennon resigned as Medical Officer, Peel Island, and the position has been filled temporarily by Dr. M. H. Gabriel.

Dr. E. L. Thomas was appointed as Medical Officer, School Health Services, with headquarters at Townsville, and Dr. P. M. Jackson as Medical Officer, School Health Services, Brisbane.

Dr. G. M. Reid resigned as Deputy Director, Maternal and Child Welfare, and the vacancy was filled by Dr. P. M. Jackson, who was transferred from School Health Services.

Dr. R. F. Condon was appointed to the vacant position in School Health Services.

Dr. C. R. Lulham, a Departmental Fellowship holder, who had been attached to the Division of Industrial Medicine as Medical Officer, ceased duty at the end of June to take up appointment as Medical Superintendent, Barcaldine Hospital.

Introductory Remarks.

It is difficult to assemble in concise form all the information which will give a correct impression of the state of the public health in Queensland, a State covering 670,500 square miles, with a density of less than 2 persons per square mile. In many ways, Queensland is a pioneering State still developing, and capable of much greater development. Thus, particular attention has always been given to safeguarding the health of people living in the outback centres far from the amenities of city life. As examples of this, one may cite the Flying Doctor services at Cloncurry and Charleville, the aerial ambulance at Cairns, the service provided to mothers and children in country districts by rail dental cars and the rail baby clinic, the good hospitals in country districts, and the regular visits by officers of various sections of this Department. All these services are being improved and extended.

Nevertheless, this annual stocktaking is valuable, as, by setting down what has been achieved, we are reminded of present deficiencies and are able to determine what gaps remain to be filled. Attention is drawn to the following important features contained in the respective sections of this report:—

Vital Statistics.

The population of Queensland was 1,191,245 at the end of 1950. The birth rate and the death rate compare favourably with other States of Australia, while the infantile mortality rate is practically stationary at 24.8 per 1,000 live births.

Section of Communicable Disease Control.

A feature of the communicable diseases present in Queensland during the year was the occurrence of the most serious outbreak of *poliomyelitis* on record. A total of 924 cases was reported, of which 824 were proved positive cases. The outbreak was still present at the end of June, although showing indications of a slow decline. The report on the present outbreak is included in a special appendix at the end of this report.

Another unusual event this year was the diagnosis of *encephalitis* at the aboriginal mission station on Mornington Island in the Gulf of Carpentaria. About 45 of 200 aboriginals gave evidence of infection with a virus allied to Japanese B or Murray Valley encephalitis. The outbreak is still being investigated by the Queensland Institute of Medical Research.

The importance of the State health organisation as a unit in the defence set-up cannot be overstressed. Unfortunately this is not appreciated by the responsible authorities. For example, when an epidemic of *malaria* occurred at Cairns in 1942, urgent action was taken by the Defence Department to drain the mosquito breeding grounds of Cairns with temporary drains. It was essential that this city be malaria-free as it was the jumping-off point of the whole Pacific campaign. With the cessation of war, the Commonwealth Government ceased to be interested and if it were not for the subsidy given by the State Government and the work of the Cairns City Council the position would be worse than before the war, because the drains themselves, on account of silting and breaking of the banks, would become breeding grounds.

It is hoped that action will be taken by the Commonwealth to supply funds to have this work made permanent because it is anticipated, in the event of hostilities, Cairns will again become an important military centre.

Hansen's Disease.

Sulphone drugs were introduced in the treatment of Hansen's disease in white patients in 1947. Their slow effeet is indieated by the fact that only 2 patients were diseharged under supervision in 1948-49 as compared with 4 in 1949-50 and no less than 13 in 1950-51.

Sulphone drugs were introdueed at Fantome Island in 1949 and during the eurrent year 8 aboriginals were diseharged from the leprosarium.

Section of Entiietic Diseases.

The advent of the antibiotics has eaused a revolution in the treatment of venereal diseases. Gonorrhoea is so quiekly eured that it is no longer a major public health problem, whilst syphilis is not the problem it used to be as any defaulters from treatment are generally non-infectious.

Section of Food and Drugs.

Fines, usually the minimum, imposed by magistrates for milk adulterated with varying amounts of water are sueh that adulteration beeomes a lucrative proeess. Certainly the present position is unsatisfactory.

Bread quality has been much in the news during the year but frequent surveys have shown that the quality of the Queensland loaf is "average" or "just above average." Bread quality continues to be influenced in an important way by the present rush methods of baking and delivery. The term "starch-redueed" bread and flour is a misnomer as the flour from whieh the bread is made is nothing more than a flour made from good quality wheat. This has only a slightly lower stareh content than the flour from whieh ordinary bread is made. The term might mislead patients suffering from diabetes and it is intended, as a result of diseussions with the trade who are in agreement that the name is incorrect, to use the term "gluten-rieh" bread.

Cosmeties containing hormones are still not available for unrestrieted sale in spite of strong representations from the manufaeturers of these produets. It is not yet eertain that these eosmeties are entirely harmless when used year after year.

All patent medieines in this State are strietly eontrolled and their advertising matter is repeatedly serutinised to prevent the publie from being misled.

Section of Environmental Sanitation.

Considering the small population of this State and its large area, environmental sanitation is fairly satisfaetory. Health inspeetors remain in short supply and Loeal Authorities without a health inspeetor show a gradual decline in standards of sanitation.

The introduetion of a 50 per eent. subsidy for approved works on mosquito eradieation sehemes has been highly sueeessful. The reduetion in the mosquito population in and around the larger eities and towns has been most marked. In many places the summer mosquito nuisanee has beeome a thing of the past.

Section of Hookworm Control.

Exeellent work has again been carried out by the small staff in eharge of hookworm control in North Queensland. During the year surveys earried out ineluded one at the Cherbourg aboriginal settlement and another at the Immigration Holding Centre in Cairns.

Division of Tuberculosis.

During the year, a building (Auekland House) was aequired as a eentral chest clinie. In this building all the activities of the Division will be eoneentrated. Marked expansion is antieipated.

A most interesting survey of the incidence of tubereulosis in Queensland aboriginals is included in the report of the Direetor of Tubereulosis. This survey, whieh was carried out under diffieult conditions with a portable X-ray maehine transported to outback stations by air, revcals that tuberculosis is a serious problem in the aboriginal raees. Waiben Hospital has been established on Thursday Island as an aboriginal sanatorium. Its expansion has been hampered by laek of suitable medical and nursing staff.

Division of Industrial Medicine.

The position of preventive medieine in industry is beeoming more important eaeh year because of its influenee on the efficieney of the worker, with resultant decrease in loss of manpower hours and inerease in output. It is with the realisation of this that both employer and employee freely avail themselves of any assistanee that can be given.

An outbreak of Weil's disease in North Queensland caused eoncern in the sugar industry, but the aetion taken by the Director of the Division restored the eonfidence of the eane-cutters.

The leetures on the preventive aspects of industrial medieine given to medieal and engineering students and faetory inspeetors should help to lessen aecidents and other hazards of industry.

Division of Maternal and Child Welfare.

Although the number of trained staff is the same as last year, the number of nurses willing to accept permanent appointment has deereased. This mitigated against a continuous service as the temporary staff are likely to resign at short notice. The result is that eentres and sub-eentres are closed until replacements are available. Seven new sub-eentres have been opened in the eountry by re-arrangement of centres.

Aeeommodation difficulties and costs are a deterrent to nurses aeeepting eountry positions. Living aeeommodation is provided in plans for new centres.

Homes at Ipswieh and Rockhampton for the admission of feeding problems are nearing completion. Such plaees are an essential part of a maternal and ehild welfare serviee, particularly in these days of over-feeding. It is essential that eaeh baby be treated as an individual, and the tendeney to push the feeding of all babies with resultant diet upset, praetised in some quarters, is to be regretted. Every baby who attends the Hospital for Siek Children with

evidence of under-feeding or over-feeding and who has attended a baby clinic is reported to the Director of Maternal and Child Welfare, who has each case investigated.

Education of the medical and nursing professions in the problem of prematurity was assisted by the distribution of a publication on this question to doctors and practising obstetric nurses. The booklet received favourable comment in the "Medical Journal of Australia."

Division of School Health Services.

The increase in medical, dental and nursing staffs has enabled a greater service to be given to the school children of Queensland.

One medical officer has headquarters in Townsville. She has examined children as far north as Normanton inland. She is about to visit the far northern coastal areas as far north as Thursday Island.

The incidence of diseases due to lack of personal hygiene has decreased, and this may be attributed in part to the health education being carried out by teachers, as a result of the publication of "Subject: Health," by the Queensland Health Education Council.

Anthropological research carried out confirms that children living in the tropics differ little from those in sub-tropical areas.

Lady Mellanby, a world authority on dental nutrition, visited several schools and examined five-year-old children. She found the incidence of dental caries greater than in England. This is probably accounted for by a better balanced diet forced on English children during the War. Much has been said on the use of sodium fluoride in the prevention of dental caries but much research work is necessary before its use can be recommended.

A trachoma survey was carried out during the year in western and north-western Queensland. An ophthalmic surgeon visited 70 schools and examined 5,941 children: 111 were found to be infected with trachoma. The majority of these children were coloured. The greatest incidence was found in the Cloncurry area. Due to better hygiene, trachoma is not nearly as prevalent as it was 20 years ago.

Division of Mental Hygiene.

Lack of nurses, particularly female nurses, continues to hamper the efficient staffing of mental hospitals.

A legacy of the war—insufficient accommodation for mentally-sick patients—is another problem, but the construction of the new Charters Towers Mental Hospital is being pushed ahead with all possible speed.

In recent years there has been a decided increase in senile psychoses which is a reflection of the increased number of old people in our population.

Psychiatric clinics have now been established at the base hospitals in Brisbane, Toowoomba, Townsville, and Cairns, and these continue to perform much useful work in guiding those who are unable to withstand the stresses of modern life. In addition, a separate Psychiatric Clinic under the supervision of the Director of Mental Hygiene functions independently in Brisbane, and the report of the activities of this unit make interesting reading.

Division of Laboratory Services.

Laboratory of Micro-Biology and Pathology.

The return of the Director from a Rockefeller Scholarship which enabled him to study in the United States and England has resulted in a re-organisation of the Laboratory. Because of the knowledge gained, new techniques which have required modern equipment have been introduced and have led to an improvement in the range and in the quality of work performed by this important institution.

The growth of the Division of Tuberculosis has been such that a new laboratory is being set up solely for the diagnosis of tuberculosis.

Complement fixation tests for the diagnosis of rickettsial infections (other than scrub typhus) and for the lymphgranuloma—psittacosis groups of diseases, will be performed in the near future, and the laboratory will co-operate actively with the Queensland Institute of Medical Research in the field station recently established at Innisfail for the diagnosis of fevers in North Queensland.

The report of the Laboratory mentions the existence of a new disease allied to lymph granuloma, and it has some remarks on cerebral calcification and the occurrence of nocardiosis. These indicate that the Laboratory staff is performing routine work with its eyes open.

Government Chemical Laboratory.

The interesting report of this Laboratory includes some pertinent remarks on the introduction of chemicals into food. Food processors have a tendency to add chemicals to foods for the purpose of improving their taste or increasing their keeping qualities without adequate preliminary study of their potential toxic effects in man. Many examples come to mind but the agene process of treating flour to improve its baking quality is typical of this type of adulteration.

The public must be protected as much from the unknown chemical as from the known chemical, and the policy has been to permit only the addition of such substances as are known to be harmless. It is no use allowing a chemical to be added to a food and then discovering, twenty years later, that the health of the population has become seriously affected.

State Social Service Fellowships in Medicine.

The system of State Social Service Fellowships in medicine, instituted in 1944, under which students are afforded financial assistance to undertake their studies on condition that they serve the Department in any part of the State for seven years after graduation, is already showing good results.

Of the five medical graduates now available, one is at Bowen, one at Collinsville, one at Julia Creek, one at Barcaldine and one at Blackall, occupying positions for which it is difficult to find doctors, whilst four more are at hospitals obtaining twelve months' hospital experience.

Vital Statistics.

Population.—The estimated population of Queensland at 31st December, 1950, was 1,191,245, an increase of 30,945 for the year. Of these 444,650 lived in Brisbane.

The population of Brisbane is increasing at a faster rate than the population of the State as a whole, but this tendency is much more evident in other States. A vigorous policy of decentralisation has been practised for many years in Queensland, particularly in regard to hospitalisation and preventive medicine.

Births.—During the year 1950, 29,028 births were registered in Queensland. The crude birth rate (births per 1,000 mean population) was 24.6. Table I. compares the crude birth rates of Queensland with those of other States and overseas countries since 1910.

TABLE I.

Crude Birth Rate (per 1,000 Population).

——	1910.	1920.	1930.	1940.	1946.	1947.	1948.	1949.	1950.
Commonwealth of Australia ..	26·7	25·5	18·8	18·0	23·7	24·1	23·1	22·9	23·3
Queensland	**27·3**	**27·2**	**20·8**	**19·9**	**24·8**	**25·7**	**24·7**	**24·2**	**24·6**
New South Wales	27·8	26·1	20·6	17·8	22·8	23·2	22·2	22·1	22·2
Victoria	24·5	23·9	18·5	16·8	23·1	23·1	22·1	21·9	22·6
South Australia	26·5	24·7	17·4	16·7	24·8	25·2	24·1	23·8	24·7
Western Australia	28·0	24·7	21·4	19·4	24·6	25·6	25·1	25·4	25·5
Tasmania	29·2	27·3	21·7	20·8	27·2	27·7	26·4	26·1	25·7
New Zealand	26·2	25·1	18·8	21·2	25·2	26·4	25·5	24·9	24·6
United Kingdom	25·0	25·4	16·8	14·6	19·4	20·7	18·1	17·0	16·1
United States of America ..	n	23·7	18·9	17·9	23·3	25·7	24·1	24·0	23·4
Canada	n	29·4	23·9	21·5	26·9	28·6	27·0	26·9	26·5

n Not available.

It is apparent that the birth rate is continuing to maintain its high post-war level. Nevertheless it remains above the latest rate recorded for the Commonwealth of Australia, and good economic conditions will tend to keep the birth rate above those of the pre-war period.

The natural increase (excess of births over deaths) was 18,629 for 1950, being equal to an increase of 1.6 per cent. of the population.

Deaths.—During 1950, deaths from all causes totalled 10,399, giving a crude death rate (deaths per 1,000 mean population) of 8.8, which was the lowest rate in Australia except for Tasmania.

TABLE II.

Crude Death Rate (per 1,000 Population).

——	1910.	1920.	1930.	1940.	1946.	1947.	1948.	1949.	1950.
Commonwealth of Australia ..	10·4	10·5	8·6	9·7	10·0	9·7	10·0	9·5	9·6
Queensland	**9·7**	**10·7**	**8·2**	**9·0**	**9·8**	**9·2**	**9·3**	**8·9**	**8·8**
New South Wales	9·9	10·1	8·4	9·4	9·7	9·5	10·0	9·4	9·6
Victoria	11·5	11·1	8·9	10·7	10·6	10·4	10·4	10·3	10·1
South Australia	10·1	10·4	8·5	9·5	10·2	9·6	10·3	9·5	9·6
Western Australia	10·1	10·3	8·8	9·5	9·6	9·4	9·1	9·0	9·1
Tasmania	11·1	9·7	9·8	9·9	10·1	9·2	9·6	8·8	8·7
New Zealand	9·7	10·2	8·6	9·2	9·7	9·4	9·1	9·1	9·3
United Kingdom	14·0	12·9	11·7	14·0	11·7	12·1	10·9	11·7	11·7
United States of America ..	15·0	13·1	11·3	10·7	10·0	10·1	9·9	9·7	9·6
Canada	n	13·7	10·7	9·8	9·4	9·4	9·3	9·2	9·0

n Not available.

Table II. compares the crude death rates of the Commonwealth, Queensland, other States, and certain overseas countries since 1910.

Table III. shows the principal causes of death in Queensland during the year 1950.

Comparisons between numbers of deaths from various causes as from the beginning of 1950 with earlier periods cannot be made with exactness on account of the introduction in 1950 of the latest (1948) revision of the International List of Causes of Death. As well as regrouping and renaming many diseases in accordance with the latest medical knowledge and practice, the new revision introduced a changed principle of coding.

TABLE III.
Causes of Death of Residents of Queensland.

Causes of Death.	Males.	Females.	Total.
Tuberculosis of Respiratory System	173	48	221
Tuberculosis, other	9	6	15
Diphtheria	6	2	8
Whooping Cough	7	6	13
Tetanus	16	5	21
Acute Poliomyelitis	10	1	11
Measles	7	8	15
Other Infectious and Parasitic Diseases	57	27	84
Malignant Neoplasms	751	596	1,347
Benign Neoplasms	37	37	74
Hay Fever and Asthma	49	24	73
Diabetes Mellitus	36	79	115
Other Allergic, Endocrine System, Metabolic and Nutritional Diseases	15	19	34
Pernicious and other Hyperchromic Anaemias	13	14	27
Other Diseases of the Blood and Blood-forming Organs	16	27	43
Mental, Psychoneurotic and Personality Disorders	58	19	77
Vascular Lesions affecting Central Nervous System	578	596	1,174
Other Disorders of the Nervous System and Sense Organs	102	75	177
Diseases of Heart	1,679	995	2,674
Hypertensive Disease	301	250	551
Other Diseases of Circulatory System	127	99	226
Influenza	18	18	36
Lobar Pneumonia	46	35	81
Broncho-pneumonia	123	80	203
Other and Unspecified Pneumonia	39	30	69
Bronchitis	86	37	123
Other Diseases of Respiratory System	82	47	129
Diseases of Stomach and Duodenum	74	21	95
Appendicitis	29	8	37
Diseases of Liver, Gallbladder and Pancreas	69	62	131
Other Diseases of Digestive System	103	82	185
Nephritis and Nephrosis	184	157	341
Diseases of Male Genital Organs	105	..	105
Other Diseases of Genito-Urinary System	38	28	66
Deliveries and Complications of Pregnancy, Childbirth, and the Puerperium	..	42	42
Diseases of the Skin and Cellular Tissue	11	13	24
Diseases of the Bones and Organs of Movement	13	15	28
Congential Malformations	68	68	136
Intra-Cranial and Spinal Injury at Birth	52	31	83
Other Birth Injury	20	12	32
Post-Natal Asphyxia and Atelectasis	42	23	65
Infections of Newborn	23	19	42
Immaturity Unqualified	78	77	155
Other Diseases Peculiar to Early Infancy	58	31	89
Senility without mention of Psychosis	138	131	269
Symptoms Referable to Systems or Organs	11	7	18
Ill-defined and Unknown Causes	22	12	34
Motor Vehicle Traffic Accidents	170	42	212
Accidental Falls	82	102	184
Accidental Drowning and Submersion	67	11	78
Other Accidents	169	36	205
Suicide and Self-inflicted Injury	83	25	108
Homicide and Injury Purposely Inflicted by Other Persons	10	4	14
Total from All Causes	6,160	4,239	10,399

Increased expectation of life at all ages has been a demographic feature of all English-speaking countries during the 20th Century. In 1891-1900, an Australian male child born during that period could expect to live 51 years; if born during 1946-48, he could expect to live 66 years. Similarly, an Australian female child had a life expectation of 55 years in 1891-1900, but if born in the period 1946-48, could expect to live 70 years. Certainly more people are living longer today than ever before, but the principal contribution to increased life expectancy has been the marked reduction in mortality during infancy and childhood, due to better nutrition and to the control of infectious diseases in the first years of life. Nevertheless, when planning extensions of hospitals and other social services in Queensland, it is well to keep in mind that between the census years of 1933 and 1947 the number of persons over 60 years of age increased by more than 58 per cent. whilst the population as a whole increased by only 7.3 per cent. over the same period.

Infantile mortality rate remains stationary at 24.8 deaths per 1,000 live births. This is a very satisfactory figure considering the vast size and relatively small population of Queensland. For instance, Western Australia, similar to Queensland in these respects, has a higher infantile mortality rate. Nevertheless, no efforts will be spared to achieve a reduction of the present figure. Although deaths of aboriginal babies residing in settlements and missions are excluded when computing the infantile mortality rate, it is important to remember that there are many coloured families living in Queensland. In many instances, the home living conditions are found to be inferior to those of white families, and the increased death rate in babies of such families tends to raise the infantile mortality rate.

The above comments are illustrated by Tables IV. and V.:

TABLE IV.

INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS).

——	1910.	1920.	1930.	1940.	1946.	1947.	1948.	1949.	1950.
Commonwealth of Australia ..	74·8	69·1	47·2	38·4	29·0	28·5	27·8	25·3	24·5
Queensland	**62·9**	**63·2**	**40·0**	**35·3**	**29·3**	**30·8**	**28·0**	**24·7**	**24·8**
New South Wales	74·7	69·4	49·8	39·0	30·2	29·8	30·3	27·3	27·1
Victoria	76·9	73·7	46·6	39·5	27·2	26·2	23·9	21·9	20·1
South Australia	70·2	67·3	48·4	35·5	27·1	24·3	29·7	27·7	24·0
Western Australia	78·2	66·0	46·7	44·2	31·1	30·9	25·6	26·4	27·1
Tasmania..	101·7	65·5	50·6	35·2	30·1	27·3	27·7	23·9	23·8
New Zealand	67·7	50·6	34·5	30·2	26·1	25·0	21·9	23·7	23·0
United Kingdom	105·0	82·0	63·0	61·0	42·7	43·5	36·0	34·0	31·0
United States of America ..	n	85·8	64·6	47·0	33·8	32·0	32·0	31·0	29·0
Canada	n	n	89·3	56·4	46·7	45·5	44·0	43·0	n

n Not available.

TABLE V.

BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA.

——	Crude Birth Rate.		Infant Mortality Rate.		Maternal Mortality Rate.		Gross Reproduction Rate.		Net Reproduction Rate.		True Replacement Rate.	
	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.	Queensland.	Australia.
1901	**28·5**	27·2	**101·9**	103·6	**4·15a**	3·77a	n	1·74	n	1·39	n	n
1911	**27·6**	27·2	**65·4**	68·5	**5·77**	5·03	n	1·71	n	1·42	n	n
1921	**26·7**	25·0	**54·1**	65·7	**5·31**	4·72	n	1·51	n	1·31	n	1·33
1931	**19·3**	18·2	**36·6**	42·1	**5·07**	5·49	n	**1·14**	n	**1·03**	n	1·06
1934	**18·2**	16·4	**40·6**	43·6	**4·61**	5·76	n	1·03	n	0·94	n	0·96
1939	**20·0**	17·7	**35·5**	38·2	**5·21**	4·09	**1·28**	1·08	**1·16**	1·00	**1·18**	0·95
1940	**19·9**	18·0	**35·3**	38·4	**4·70**	4·08	**1·25**	1·10	**1·15**	1·02	**1·14**	0·94
1941	**20·8**	18·9	**39·1**	39·7	**4·28**	3·64	**1·30**	1·15	**1·19**	1·07	**1·15**	0·96
1942	**20·4**	19·1	**34·8**	39·5	**3·97**	3·59	**1·26**	1·16	**1·16**	1·07	**1·09**	0·94
1943	**22·2**	20·7	**37·8**	36·3	**3·83**	3·33	**1·39**	1·26	**1·25**	1·16	**1·15**	1·00
1944	**23·1**	21·0	**31·3**	31·3	**3·02**	2·85	**1·45**	1·29	**1·32**	1·20	**1·19**	1·03
1945	**24·8**	21·8	**29·8**	29·4	**2·47**	2·15	**1·53**	1·34	**1·39**	1·24	**1·26**	1·07
1946	**24·8**	23·7	**29·3**	29·0	**2·26**	1·85	**1·55**	1·46	**1·42**	1·33	**1·25**	n
1947	**25·7**	24·1	**30·8**	28·5	**1·62**	1·87	**1·64**	1·49	**1·54**	1·36	**1·26**	n
1948	**24·7**	23·1	**28·0**	27·8	**1·47**	1·40	**1·60**	1·45	**1·51**	1·33	**1·23**	n
1949	**24·2**	22·9	**24·7**	25·3	**1·44**	1·21	**1·57**	1·46	**1·49**	1·33	**1·21**	n
1950	**24·6**	23·3	**24·8**	24·5	**1·45**	n	**1·61**	n	**1·52**	n	n	n

a Figures for 1901 not available. Figures shown are for 1902.
n Not available.

The outstanding features for vital statistics for 1950 are—

1. Maternal mortality rate of 1.45 per thousand live births which is a slight rise on the record low figure of 1.44 for 1949.
2. An infant mortality rate of 24.8 per thousand live births. This is a slight rise on the record low figure of 24.7 for 1949.
3. The fall in the marriage rate of 8.9 in 1949 to 8.7 in 1950.
4. A birth rate of 24.6 per thousand in 1950. A slight rise from 24.2 in 1949.
5. A slight fall in the death rate of 8.9 in 1949 to 8.8 in 1950.
6. The highest number of births recorded in any year in Queensland.

DIVISION OF PUBLIC HEALTH SUPERVISION.

Deputy Director-General of Health and Medical Services: D. W. Johnson, M.B., B.S. (Syd.), D.T.M. & H. (Syd.).

Chief Inspector of Food and Drugs: C. M. Cato.

Chief Sanitary Inspector: W. McNeil.

Clerical and Statistical Branches: T. O'Shea, M.R.San.I.

Welfare Officer: Mrs. V. Wills.

Inspectors in charge of District Offices:

Cairns: W. H. Kelly
Rockhampton: R. Woodley
Townsville: H. P. Lowes
Toowoomba: C. J. Murray
Thursday Island: B. M. Keeffe
Mackay: R. A. Burke

SECTION OF COMMUNICABLE DISEASE CONTROL.

Tables VI., VII., and VIII. show the incidence of communicable and notifiable diseases in Queensland for the calendar year 1950 and for the fiscal year 1950-51. Some of these diseases merit further comment:

Poliomyelitis.—Unfortunately the past year has witnessed the most serious outbreak of poliomyelitis on record—924 cases being notified, of which 824 were proved positive cases. At 30th June, the outbreak was still with us, although the incidence shows signs of declining in country areas. Details of the outbreak are included in an appendix (see Appendix A), but features of the present epidemic include a continuation of the tendency of the 1945-46 outbreak to attack more people in the older age groups than was previously the case, and an explosive outbreak in the Georgetown district following a race meeting.

Poliomyelitis is a disease of paradoxes. Once confined to children, it now attacks older people; it spreads in communities with good sanitation and a high standard of living; and, so far, it has resisted control efforts that are successful in other infectious diseases. All these things can easily induce mild panic when an outbreak of poliomyelitis occurs.

Thanks are due to members of the Advisory Council on Poliomyelitis (particularly those members who are practising doctors) for their valuable advice in the difficult problems that arise in an outbreak such as this. To parents and, indeed, to the public generally, appreciation is expressed for the fortitude and common sense displayed during the present epidemic. The press and radio have also assisted by not accentuating the "scare" aspects of poliomyelitis, and by publishing useful articles and statements that have done something to allay public anxiety. It is easy to allow poliomyelitis to get out of perspective. Even in its worst outbreaks, poliomyelitis ranks far below road accidents as a cause of death and crippling. Our present helplessness to prevent spread of poliomyelitis will not persist. With the vast amount of money being spent in research, there is every hope that some day the disease will be prevented and controlled. Until that day comes, preventive medicine depends upon public co-operation, upon measures which might be expected to minimise the effects of the disease in the attacked individuals, and upon measures that control its rate of spread in a community.

Leptospirosis.—Continued abnormal rainfall in the sugar cane districts north of Tully, North Queensland, caused an outbreak of leptospirosis amongst sugar cane cutters. As a result of this outbreak "The Rat Prevention and Destruction Regulations of 1942" were amended to forbid cutting of cane on low-lying areas until the Health Inspector in the area considered that a health hazard no longer existed. Prior to this amendment, a canefield, if wet and potentially dangerous, could be given an incomplete or token burn and cutting could commence forthwith whether or not the field was dry.

TABLE VI.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1950, TO 30TH JUNE, 1951.
METROPOLITAN AREA (POPULATION AT 1ST JULY, 1950—440,000).

Diseases.	Months.												Total 1950–1951.
	1950.						1951.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	..	1	25	..	..	..	2	1	..	..	..	..	29
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)*	7	10	4	4	11	14	27	4	24	13	12	24	154
Diphtheria	5	4	3	5	2	3	3	12	8	7	3	5	60
Dysentery, Amoebic	1	..	..	..	..	..	..	..	1	..	..	..	2
Dysentery, Bacillary	4	8	7	4	8	3	2	9	6	12	43	11	117
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	1	..	..	1
Filariasis	..	1	..	..	..	..	..	..	..	..	..	..	1
Lead Poisoning ..	..	..	1	..	..	..	..	1	..	..	..	..	2
Leprosy	..	..	..	..	..	..	..	1	..	..	..	..	1
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever)	..	..	..	..	..	..	..	1	..	..	..	1	2
Malaria	1	1	2	1	1	4	4	..	1	2	3	1	21
Meningitis, Cerebro-spinal	..	..	3	3	..	..	..	..	..	..	2	2	10
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis, Acute Anterior	..	..	1	..	..	6	13	10	38	48	38	32	186
Puerperal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Pyrexia ..	1	..	..	..	..	..	..	..	..	..	4	1	6
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rubella†	..	..	..	..	..	..	..	..	..	..	..	..	..
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina	9	12	18	56	114	49	22	15	7	8	3	11	324
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	20	34	31	30	42	10	17	41	26	21	33	26	331
Tetanus	..	..	2	1	1	..	1	..	3	1	..	1	10
Typhoid Fever (including Paratyphoid Fevers) ..	2	..	1	..	1	1	3	..	1	..	..	..	9
Typhus Fever (including Rural and Urban Forms and Japanese River Fever)	2	..	1	..	..	..	1	1	..	..	1	..	6
Undulant (Malta) Fever	..	..	..	..	..	..	..	..	1	..	1	..	2
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	52	71	99	104	180	90	95	96	116	113	143	115	1,274

* Diarrhoea for more than 48 hours' duration in children under 2 years of age was declared a notifiable disease with respect to the whole of the State of Queensland on the 24th March, 1949 (*vide Government Gazette*, 26–3–49, page 1066).

† Rubella (German Measles) in females over the age of 14 years was declared to be a notifiable disease under the said Acts with respect to the whole of the State of Queensland in the *Government Gazette* of September 17th, 1949.

TABLE VII.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1950, TO 30TH JUNE, 1951.
EXTRA-METROPOLITAN AREA (POPULATION AT 1ST JULY, 1950—743,792).

Diseases.	Months.												Total 1950–1951.
	1950.						1951.						
	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Anchylostomiasis ..	6	3	3	6	1	..	..	7	2	17	5	..	50
Anthrax	..	..	..	..	..	1	..	..	..	..	..	..	1
Bilharziasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Fever ..	..	..	..	..	..	..	..	.	3	..	..	..	3
Diarrhoea (Infantile)*	1	..	1	9	2	2	1	3	2	..	..	..	21
Diphtheria	8	7	5	10	9	4	8	6	7	8	9	2	83
Dysentery, Amoebic	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery, Bacillary	..	..	2	3	2	2	2	4	1	2	..	2	20
Encephalitis Lethargica	..	..	..	..	..	1	..	..	1	1	2	1	6
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ..	..	..	..	1	..	..	..	..	..	..	..	..	1
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever)	..	24	..	8	4	8	17	17	16	7	3	3	107
Malaria	1	..	1	..	1	1	..	1	2	..	1	..	8
Meningitis, Cerebro-spinal	1	3	2	10	3	3	1	2	3	2	3	1	34
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague, Bubonic or Oriental	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis, Acute Anterior	3	4	2	12	31	38	95	111	106	111	93	32	638
Puerperal Fever ..	..	1	..	..	..	..	..	..	1	..	1	..	3
Puerperal Pyrexia ..	1	2	1	2	1	..	..	3	..	..	1	..	11
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rubella †	..	..	..	..	..	..	..	..	1	..	..	..	1
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever or Scarlatina	10	10	15	9	11	15	23	16	8	11	16	16	160
Smallpox (including Amaas or Alastrim)	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis (all forms)	16	27	21	23	23	24	20	27	30	12	21	20	264
Tetanus	3	3	5	2	1	2	2	2	..	1	1	..	22
Typhoid Fever (including Paratyphoid Fevers)	..	..	..	..	1	..	..	..	2	..	..	..	3
Typhus Fever (including Rural and Urban Forms and Japanese River Fever)	6	6	3	5	3	2	3	8	10	..	9	7	62
Undulant (Malta) Fever	..	..	..	..	..	..	..	2	..	..	..	..	2
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	56	90	61	100	93	103	172	209	195	172	165	84	1,500

* Diarrhoea for more than 48 hours' duration in children under 2 years of age was declared a notifiable disease with respect to the whole of the State of Queensland on the 24th March, 1949 (*vide Government Gazette*, 26–3–49, page 1066).

† Rubella (German Measles) in females over the age of 14 years was declared to be a notifiable disease under the said Acts with respect to the whole of the State of Queensland in the *Government Gazette* of September 17th, 1949.

TABLE VIII.

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASES), SECTION 29 OF "THE HEALTH ACTS, 1937–1949," DURING THE CALENDAR YEAR 1950.

Disease.	Cases Reported on Prescribed Form.			
	Metropolis.	Outside Areas.	Total Whole State, 1950.	Total Whole State, 1949.
Anchylostomiasis	28	34	62	22
Anthrax	..	1	1	..
Bilharziasis	..	..	..	..
Coastal Fever	..	..	..	3
Cholera	..	..	..	..
Diphtheria	81	91	172	169
Diarrhoea (Infantile) *	134	33	167	200
Dysentery, Amoebic	2	..	2	..
Dysentery, Bacillary	219	25	244	79
Encephalitis Lethargica	..	4	4	5
Filariasis	1	1	2	1
Lead Poisoning	1	1	2	3
Leprosy	..	1	1	4
Leptospirosis (including Weil's Disease, Paraweil's Disease, Seven-day Fever)	..	55	55	11
Malaria	18	6	24	33
Meningitis, Cerebro-spinal	7	37	44	20
Mossman Fever	..	2	2	3
Plague, Bubonic or Oriental	..	..	..	..
Poliomyelitis, Acute Anterior	10	96	106	20
Puerperal Fever	..	2	2	5
Puerperal Pyrexia	4	13	17	24
Relapsing Fever	..	..	..	..
Rubella †	2	4	6	76
Sarina Fever	..	..	..	..
Scarlet Fever or Scarlatina	298	148	446	367
Smallpox (including Amaas or Alastrim)	..	..	..	..
Tetanus	14	21	35	32
Tuberculosis (all forms)	364	230	594	434
Typhoid Fever (including Paratyphoid Fevers)	7	2	9	22
Typhus Fever (including Rural and Urban Forms, and Japanese River Fevers)	7	46	53	69
Undulant (Malta) Fever	..	4	4	5
Yellow Fever	..	..	..	..
Totals	1,197	857	2,054	1,607

* Diarrhoea for more than 48 hours' duration in children under 2 years of age was declared a notifiable disease with respect to the whole of the State of Queensland on the 24th March, 1949 (*vide Government Gazette*, 26–3–49 page 1066).

† Rubella (German Measles) in females over the age of 14 years was declared to be a notifiable disease under the said Acts with respect to the whole of the State of Queensland in the *Government Gazette* of September 17th, 1949.

A further cause for increase in notifications from leptospirosis was the high endemicity of pomona-type leptospirosis in districts devoted to dairying and pig raising. Recent veterinary research has shown that pigs, calves, and dairy cattle in Southern Queensland are frequently infected with *Leptospira pomona* and *Leptospira mitis*. These organisms, once introduced into a dairy herd or piggery, tend to spread rapidly to all non-immune animals, and animals when recovered can become "carriers" of the organisms for several months. Unless protected by gum boots, workers in the dairying and pig industries can easily become infected by walking through muddy yards. The Gympie district, especially, has contributed many human cases, and the Director of Industrial Medicine refers to a survey he made in that area during the year.

The Queensland Health Education Council has published articles in dairying and pig industry journals, drawing attention to the prevalence of human leptospirosis and setting out practical preventive measures. In fact, leptospirosis in pigs and dairy cattle has become so common that people invite infection by attending these animals in bare feet when the ground is wet.

Bacillary Dysentery and Infantile Diarrhoea:—Notifications of these two diseases were 137 and 175 respectively; in 1949-50 notifications were 247 and 261. In the last Report, mention was made of the appearance in Queensland of dysentery due to *Shigella sonnei* for the first time. This persistent organism of low virulence has continued to cause infantile diarrhoea and dysentery during the year, but symptoms fortunately are extremely mild. Because of this, only a proportion of these infections are probably notified, as reports indicate that gastro-intestinal infections both in Brisbane and in country areas were not uncommon.

Although the organisms causing dysentery and infantile diarrhoea can be spread by insects such as flies and cockroaches, and in other instances can be caused by eating animal products infected prior to slaughter, there is no doubt that in the great majority of cases infection is due to human contamination of food during or after its preparation. People preparing food for human consumption, whether in the home, in factories, or in eating establishments, must keep a high standard of personal hygiene. Contamination of food by a human carrier of any of the common organisms causing gastro-intestinal disturbance can convey disease to others. The Queensland Health Education Council, by furnishing publicity to the health departments of Local Authorities, is performing valuable work in directing public attention to the prevention of these diseases. The simple act of washing the hands carefully after visiting the toilet should be routine in all persons handling food that will be eaten by others. Amendments to the Food and Drug Regulations are now being prepared, and some of these will insist on a higher standard of hygiene in the food industry.

Diphtheria.—Notifications totalled 143, of which 60 were in the metropolitan area. Corresponding figures for 1949-50, were 186 and 82. It is clear that diphtheria, although under control, has not yet been abolished. In fact, its incidence could be reduced still further. To this end, P.T.A.P., a highly purified diphtheria prophylactic, has now been made available free of charge to Local Authorities. It is hoped that it will be widely used, because it is a very efficient immunising agent when given in two doses. It has also been recommended that a "booster" dose of toxoid be given to children just prior to commencing school. Many Local Authorities are doing this, and more are expected to adopt the procedure during the year. The combined effect of these recommendations, when applied on a State-wide scale, should result in a decline in diphtheria.

It is interesting to note, as reported in the Division of School Health Services, that a survey showed that 90·7 per cent. of school children in Brisbane and 85·5 per cent. of school children in country districts have been immunised against diphtheria. This is an exceedingly satisfactory figure. Parents should realise that a high degree of immunisation in a community increases the number of carriers and increases the risk of infection in unimmunised children.

Malaria.—Only 29 cases of malaria were notified during the year compared with 1622 in 1946-47. All of these cases were infected outside Australia, and most of them represent relapses in ex-servicemen. In fact, no case of malaria infected in Queensland has been reported for over five years.

Since February, 1943, the sum of £958,000 has been made available to Local Authorities for mosquito eradication works as subsidy. However, the problem of malaria in Queensland is of national importance. The Cairns epidemic of 1942 and the presence of the potent mosquito vector (*Anopheles punctulatus farauti*) north of the 19th parallel of latitude, indicate that malaria could again become a problem if present vigilance is relaxed. The many miles of earth-formed drains constructed by the Army in 1942 and 1943 have been maintained in good order at the expense of the Local Authority and the State. At a meeting of a Committee of the National Health and Medical Research Council in 1950, a recommendation was made that, because of the importance of Cairns, the drains should be made permanent. It is hoped that the Commonwealth Government will accept this recommendation.

Scarlet fever.—Notifications of scarlet fever totalled 484, compared with 293 during the previous year. Fortunately the symptoms were mild and any complications were uncommon. Antibiotic therapy was widely used.

Tuberculosis.—Five hundred and ninety-five (595) cases of tuberculosis were reported during the year as compared with 513 in the previous year. The increase is almost wholly due to the activities of the newly established Division of Tuberculosis. The introduction of mass radiography and the institution of an intense contact case-finding service will tend to increase the reported incidence of this disease, although, ultimately, these methods will bring about its control.

Anchylostomiasis.—The notified cases of anchylostomiasis increased from 31 to 79. At present this disease is largely confined to

aboriginals, and the increase in notified cases reflects the results of a survey carried out at Cherbourg aboriginal settlement during the year.

It is hoped that the Section of Hookworm Control will institute surveys of all mission stations in the Gulf of Carpentaria where there is reason to believe that the incidence of hookworm disease is high.

Tetanus.—Notifications of tetanus totalled 32 as compared with 35 in the previous year. It is expected that the incidence of this disease will soon commence to decline because tetanus toxoid is now available free to patients of private doctors under the Pharmaceutical Benefits Scheme, and is also available free to Local Authorities in Queensland. Several Local Authorities have already undertaken campaigns for free immunisation of children against tetanus, and it is expected that many other Local Authorities will also fall into line.

Encephalitis.—Sporadic cases of encephalitis occur from time to time in Queensland, but the occurrence of encephalitis along the course of the Murray River in Victoria and New South Wales has roused fresh interest in this disease. An outbreak of a disease resembling encephalitis was reported from the aboriginal mission station at Mornington Island in the Gulf of Carpentaria this year. The outbreak was and is still being investigated, by the Queensland Institute of Medical Research in co-operation with the Walter and Eliza Hall Institute, Melbourne. It now appears that about 45 aboriginals out of a total population of 200 give evidence of previous infection with a virus resembling Japanese B or Murray Valley encephalitis. A close watch is being kept for similar cases on the mainland, but to date no proved cases have occurred.

HANSEN'S DISEASE (LEPROSY).

(1) HANSEN'S DISEASE IN THE WHITE POPULATION.

PEEL ISLAND LEPROSARIUM.

Medical Officer: V. F. B. LENNON, M.B., B.S. (Adel.)

The leprosarium at Peel Island in Moreton Bay is maintained for the treatment of the disease in white patients. A full-time medical officer resides at the institution. Statistics for the year appear in Table IX.

TABLE IX.

SHOWING POPULATION CHANGES AT PEEL ISLAND LEPROSARIUM FOR THE LAST THREE YEARS.

—	1948–49.			1949–50.			1950–51.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Population at July 1 ..	42	10	52	46	13	59	44	10	54
Admitted	10	3	13	3	..	3	5	..	5
Discharged	2	0	2	2	2	4	9	4	13
Died	4	0	4	3	1	4	1	..	1
Population at June 30 ..	46	13	59	44	10	54	39	6	45
Increase	4	3	7	..	..	..	..	..	..
Decrease	..	..	..	2	3	5	5	4	9

Of the five patients admitted during 1950-51, one was a re-admission and one was admitted from Adelaide at the request of the South Australian Government.

The discharges reflect the efficacy of the new treatment with sulphones. These drugs exert their maximum effect only after about three years, and sulphone therapy was not commenced until 1947.

Queensland graduates form an increasing proportion of doctors in practice, and all of them have received instruction in the diagnosis of Hansen's disease. Prior to 1940, all doctors practising in the State graduated from medical schools in cities where the disease was such a rarity that the average medical student was fortunate if he saw a single patient during his course of study.

Patients with Hansen's disease stand a much better chance of being detected earlier than a decade ago. In addition, less drastic conditions of segregation, together with improved prospects of arresting the disease by modern therapy, have made patients more ready to come forward and accept treatment.

Over the last five years, the majority of admissions have been patients who had relapsed on previous treatment with chaulmoogra oil. So far, no patient has relapsed following adequate sulphone therapy, but it is too early yet to predict permanent arrest with these drugs. In fact, a disease so chronic is unlikely, when well established, to yield completely to one form of treatment alone. Although the sulphone drugs constitute the most important advance ever made in the therapy of Hansen's disease, they are slow in action and have disagreeable side effects, and these defects have not been eliminated in the more recent drugs of this series. It is probable that other drugs will be developed which will prove more satisfactory.

During the year, eight patients were selected for treatment with thiosemicarbasone which has given promising results overseas, but the trial has not been in operation long enough to draw definite conclusions.

Discharges.—Before being discharged under supervision, a patient must submit to examination by a Board of medical practitioners. His medical history is reviewed and if the Board can detect no signs of activity of the disease a recommendation for release is made to the Director-General.

Visits of Specialists.—During the year, Dr. T. V. Stubbs Brown, orthopaedic surgeon, and Dr. E. O. Marks, ophthalmologist, visited Peel Island to examine and advise on the treatment of patients. In addition, a dentist and an optician visited as required.

The co-operation of the General Medical Superintendent, Brisbane General Hospital, in admitting patients for treatment not available on Peel Island is greatly appreciated.

Transfer of Leprosarium.—At Burpengary, about 26 miles north of Brisbane, land has been resumed for the site of a new leprosarium. This institution will be equipped with all modern amenities for patients, including individual dormitory apartments for single patients and flats or cottages for married patients and families. The new site will be easy of access for patients, visitors, and staff, and will permit of rapid transfer of patients to the specialist facilities available at Wattlebrae, the infectious diseases section of the Brisbane General Hospital. Every effort is being made to hasten the completion of this important project.

Publicity on Hansen's Disease.—The excellent results achieved by the sulphone drugs and the early removal of the leprosarium to the mainland have transformed the outlook of the

majority of patients. Previously unco-operative, they are now taking a keen interest in their treatment, and the old attitude of hopelessness has vanished.

Following my visit to the United States in 1949, a policy of enlightening the public on Hansen's disease was commenced. Popular opinion of leprosy has strong Biblical associations, and is tinged with abhorrence and ignorance. An honest endeavour has been made to inform the public that Hansen's disease carries no stigma of sin, and that it is a chronic disease of low infectiousness so contrary to public opinion that the majority of sufferers would pass unnoticed in the street. A broadcast, a lecture to social workers, and an article in an "Australian Monthly" have all sought to dispel popular misapprehension about Hansen's disease. In addition, the Queensland Health Education Council in its "Dr. Day" series has published an article on the subject in the "Brisbane Telegraph." Even the word "leprosy" is now used only in legal documents where it is specifically required by law.

The Segregation Question.—A humanitarian approach to the problem of Hansen's disease has always been practised by officers of this Department, and the needs of the patient and his dependants have been met in a manner not generally realised by the public. For instance, wives and dependants of a patient receive an allowance equivalent to the basic wage, and patients receive free clothing, radio sets, and luxuries such as tobacco and beer which are not issued to patients in our public hospitals. This tendency has been accelerated by permitting more frequent visitors, by allowing concerts and lodge functions to be held at the leprosarium, and even by allowing patients to visit relatives who are dangerously ill in the Brisbane General Hospital. Requests by patients or by their relatives and friends for further privileges invariably receive most sympathetic attention, and the great majority of these requests are granted.

The only real complaint of patients is that, whilst still presumably infectious to others, they are deprived of their freedom by the present policy of segregation. They point out that patients with other infectious diseases are not segregated. This is correct but it is fair to point out that regulations have recently been enacted which compel a sufferer from active tuberculosis to place himself under treatment in hospital if his conduct is flagrantly dangerous to other people—and in tuberculosis the method of spread of the disease is known.

In Hansen's disease, on the other hand, the method of spread is quite unknown; therefore patients are segregated, but only while they give bacteriologically positive smears (and therefore are presumably capable of infecting others) and for a period of six to twelve months thereafter. Patients with Hansen's disease constitute only a small proportion of the population. Segregation is economically feasible, and figures quoted in the Annual Report for 1948-49 indicate that segregation is causing a decline in the incidence of the disease in the white population of Queensland. In the light of our present knowledge (or in the darkness of our present ignorance, if this phrase is preferred) I believe that segregation is justified and that the continued application of this policy will eventually lead to the eradication of the disease in white Queenslanders.

(2) HANSEN'S DISEASE IN THE ABORIGINAL POPULATION.

FANTOME ISLAND LEPROSARIUM.

Medical Officer: R. HILYARD-SMITH, M.R.C.S. (Eng.), L.R.C.P. (Lond.)

Only aboriginal patients with Hansen's disease are admitted to the Fantome Island leprosarium in North Queensland. Population changes during the year are given in Table X:—

TABLE X.

POPULATION CHANGES AT FANTOME ISLAND LEPROSARIUM FOR YEAR 1950–51.

—	Males.	Females.	Totals.
In the leprosarium at 1st July, 1950	48	30	78
Admitted	2	..	2
Discharged	3	5	8
Died	1	2	3
In the leprosarium at 30th June, 1951	46	23	69
Decrease	2	7	9

The causes of death in the three patients who died during the year are given below:—

Sex.	Age.	Cause of Death.
Female ..	29	Generalised leprosy, Exhaustion
Male ..	50	Generalised leprosy, Exhaustion
Female ..	26	Generalised leprosy, Exhaustion

Hansen's disease in aboriginals appears to run a more acute course than in white persons, and response to the sulphone drugs is even more gratifying. It will be observed that no fewer than 8 patients were discharged under supervision, and this result reflects the efficiency of the sulphone drugs since their introduction early in 1949.

It is expected that further discharges will take place during the coming year. The fact that patients are being discharged apparently free from a disease that was once considered fatal, has caused an increase in morale of the patients. Before granting discharges, arrangements are made for the patients under supervision to continue to have treatment and regular medical attention at settlements.

Staff.—A medical officer visits regularly but routine treatment is carried out by six members of the Franciscan Order. Their continued devotion to their patients and their willingness to adapt themselves to new methods of treatment are worthy of the highest praise.

SECTION OF ENTHETIC DISEASES.

GEOFFREY HAYES, M.B., Ch.M. (Syd.), Medical Officer in Charge.
BEATRICE WARNER, M.B., B.S. (Melb.), Medical Officer.

In presenting a report on the activities of the Section of Enthetic Diseases for the fiscal year under review a very satisfying decline in the incidence of notified venereal disease to an all time low can be reported. Normally there is always a rise in venereal disease incidence during wars, followed by a post-war decline. This decline after the 2nd World War has been much more rapid due to the discovery and use of the antibiotic preparations, and this is shown graphically in Table XI. and Figure 1.

During the 12 months under review 626 persons were notified (anonymously) as suffering from venereal disease as compared with 731 for the previous year. Of these 109 were females and 517 males, as compared with 155 and 576 respectively in the previous year, and 421 had gonorrhoea and 178 syphilis as compared with 506 and 207 respectively for the previous year.

Table XI. dissects the incidence of notified venereal disease in Queensland for the past year.

TABLE XI.

NOTIFIED VENEREAL DISEASE IN QUEENSLAND, 1950–51.

—	Metropolitan.		Outside Centres.		Whole State.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	
Gonorrhoea—							
Unspecified	4	0	7	2	11	2	13
Acute	291	33	50	6	341	39	380
Sub-acute	2	4	2	..	4	4	8
Chronic	..	5	..	2	..	7	7
Ophthalmia	..	..	..	..	..	..	..
Vulvo-vaginitis..	..	10	..	1	..	11	11
	297	52	59	11	356	63	..
Syphilis—							
Unspecified	..	1	2	1	2	2	4
Primary..	57	5	18	4	75	9	84
Secondary	4	3	6	6	10	9	19
Tertiary	8	1	5	5	13	6	19
Latent	16	4	4	3	20	7	27
Neuro	8	5	..	2	8	7	15
Pre-natal (cong.)	2	..	3	3	5	3	8
	95	19	38	24	133	43	..
Soft Sore	3	..	..	..	3	..	3
Venereal Warts	24	1	..	1	24	2	26
Ulcerative Granuloma	..	..	..	..	..	..	..
Syphilis and Gonorrhoea	..	1	1	..	1	1	2
	27	2	1	1	28	3	..
	419	73	98	36	517	109	
	492		134		626		626
	626						

It will be seen that 492 of the notifications (78 per cent.) came from Brisbane—the Department's *ad hoc* clinics accounting for 438 of these.

That only 8 per cent. of the venereal disease in Queensland is treated by private practitioners in Brisbane may be a fact but it seems hard to

believe—especially with the simplification of modern therapy. Notifications from centres outside Brisbane are given in Table XII. to give some idea of the "spread."

TABLE XII.

CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE THE METROPOLIS.

—	Males.	Females.	Totals.
Aramac	1	1	2
Ayr	3	1	4
Beaudesert	1	..	1
Biloela	1	1	2
Cairns	14	3	17
Cloncurry	3	4	7
Cunnamulla	4	1	5
Dalby	1	..	1
Emerald	1	..	1
Gladstone	3	..	3
Gordonvale	4	..	4
Hughenden	1	..	1
Ipswich	3	1	4
Longreach	1	..	1
Mackay	10	5	15
Maryborough	2	..	2
Mareeba	2	1	3
Monto	1	1	2
Mossman	1	..	1
Mount Isa	2	4	6
Mount Morgan	1	..	1
Nambour	2	1	3
Oakey	1	1	2
Rockhampton	11	5	16
Roma	1	..	1
Southport	1	..	1
Toowoomba	2	3	5
Townsville	18	3	21
Tully	2	..	2
	98	36	134

Table XIII. and Figure 1 show the upsurge and decline after two world wars.

The graph should be studied in the light of the following comments:—The "boost" associated with both world wars includes in both cases Australian armed forces personnel stationed in Queensland. In the 1914-18 war the main increase occurred after demobilisation because of returning troops from overseas, whereas in the 1939-45 war the peak occurred at about the zenith of Japanese expansion when Queensland was virtually a garrison State. I would repeat that the figures include only Australian armed forces personnel.

During the Second World War we had the help of antibiotics for by 1944 penicillin was generally available, so that the incidence was already declining before the war ended and has shown an almost precipitous decline since to an all-time low this year.

However, as mentioned in last year's report, treatment is now so much simplified that maybe many cases are no longer notified, and the graph may not be a true index, although it does probably represent the general trend. At the Hope Street Clinic figures are approximately the same as before the war, but as against this there has been a 50 per cent. increase in the population of Brisbane.

Whilst on the subject of two world wars it is interesting to mention the contribution which venereal disease activities have made to the architecture of Brisbane. When the Enthetic Diseases section of the Department was first started in 1913 the need for inpatient care was very real and the late Dr. G. P. Dixon wrote in the (1913-14) annual report. I think it will be a great advantage to the successful working of the Dispensary when the ward for the treatment of severe cases is finished, as at present I lose sight of many of the most interesting cases after admission to the hospital."

This ward was never occupied—the following extract from the report of the Commissioner of Public Health for 1914-15 explains why. " . . . The Government provided the necessary accommodation at the grounds of the General Hospital, but owing to the wards of that institution being overtaxed, through the admission of general cases from the expeditionary camps, the enthetic diseases wards were temporarily requisitioned by Government authority to meet the contingency."

These buildings are now the detention and reception wards at the Brisbane General Hospital.

During World War II. the Venereal Isolation Hospital at Park Road, which was the Health Department's Lock Hospital when the buildings at the General Hospital were requisitioned, was greatly enlarged by the building of six wards, a treatment block, and a dining and recreation block—all substantial wooden buildings. With the decline of the "camp followers" when troops moved away from Queensland the Lock Hospital, which at one stage was accommodating more than 100 cases, became superfluous, especially when the newer antibiotics made hospitalisation no longer necessary. The wards have now been shifted to the South Brisbane Auxiliary and to the Brisbane General for extra ward and laboratory space—the treatment block has been remodelled and is now the Matron's residence at H.M. Prison, and the dining and recreation block has been converted to the Women's Prison.

TABLE XIII.

SHOWING NUMBER OF VENEREAL DISEASE NOTIFICATIONS SINCE 1914.

Fiscal Year.	Notifications.	Mean Population.	Incidence per 1,000 Population.
1914–15	1,414	688,212	2·054
1915–16	1,946	690,494	2·818
1916–17	1,477	680,772	2·171
1917–18	..	688,946	..
1918–19	2,003	707,732	2·83
1919–20	2,848	737,463	3·861
1920–21	2,302	754,374	3·051
1921–22	1,815	769,180	2·359
1922–23	1,710	785,466	2·177
1923–24	1,521	804,442	1·889
1924–25	1,503	825,313	1·821
1925–26	1,401	847,757	1·652
1926–27	1,319	864,502	1·525
1927–28	1,373	877,753	1·564
1928–29	1,382	891,435	1·55
1929–30	1,541	903,703	1·705
1930–31	1,552	917,830	1·690
1931–32	1,841	930,456	1·978
1932–33	1,464	940,628	1·556
1933–34	1,576	950,462	1·595
1934–35	1,248	961,200	1·298
1935–36	1,125	972,767	1·156
1936–37	1,211	984,056	1·23
1937–38	1,256	996,448	1·26
1938–39	1,147	1,008,207	1·127
1939–40	1,091	1,021,426	1·077
1940–41	1,328	1,032,122	1·286
1941–42	1,207	1,036,690	1·164
1942–43	3,101	1,040,433	2·98
1943–44	2,718	1,054,810	2·576
1944–45	2,391	1,068,630	2·24
1945–46	1,309	1,084,125	1·207
1946–47	1,373	1,097,303	1·251
1947–48	1,000	1,112,722	1·112
1948–49	846	1,134,738	·745
1949–50	731	1,163,084	·628
1950–51	626	1,172,542	·534

FIGURE 1

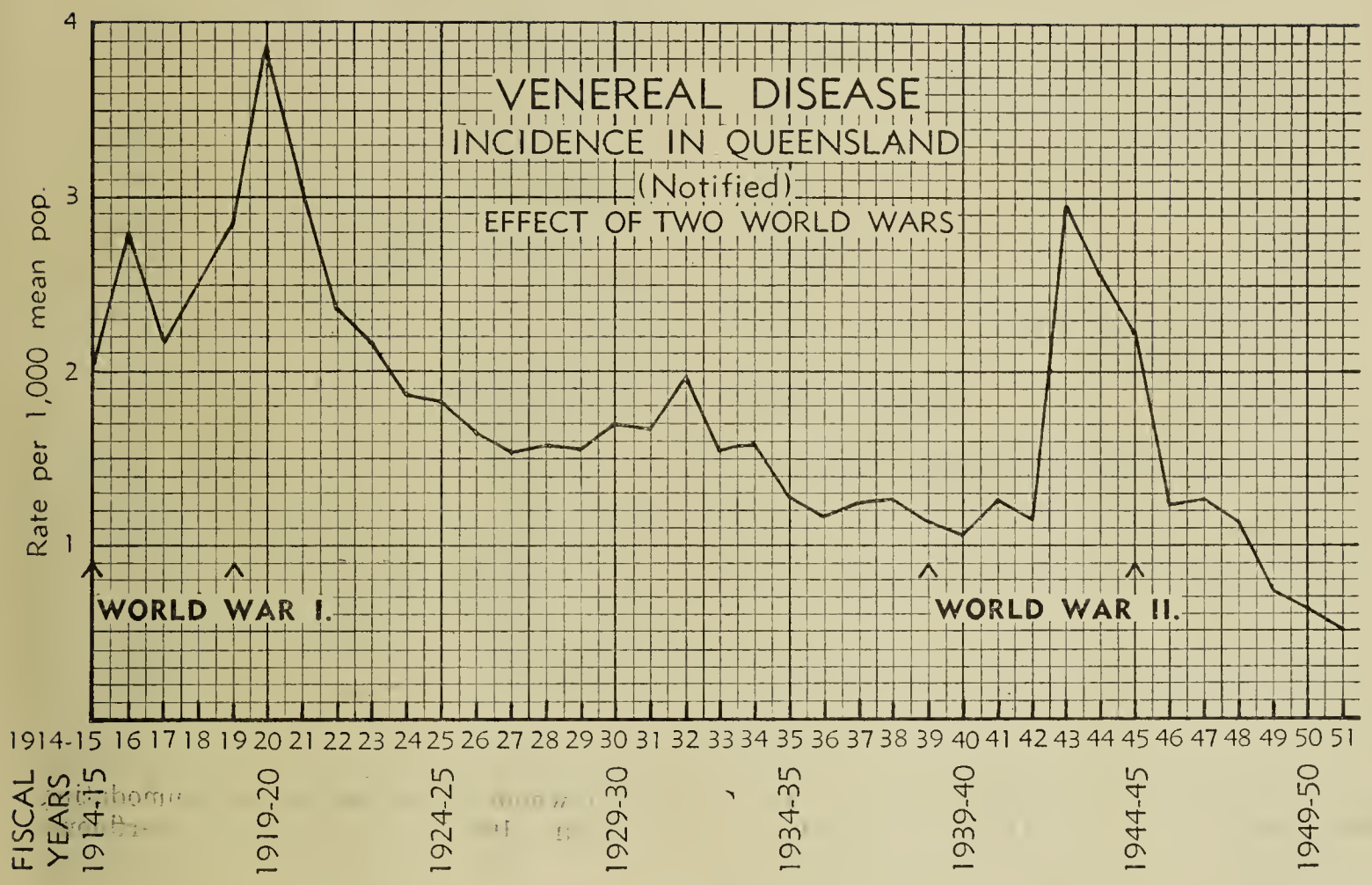

Table XIV. gives the alleged sources of the 626 infections:—

TABLE XIV.

Showing Sources of Infection.

Non-professional	318
Unknown	257
Professional	19
Wives	11
Occupational (prostitutes)	7
Mothers	5
Husbands	5
Aboriginals (gins)	2
Parents	2
	626

Table XV. gives the sources of notification, and Tables XVI. and XVII. the marital status and ages of the cases notified:—

TABLE XV.

Showing Sources of Notification.

——	Males.	Females.	Total.
Private Doctors—			
Brisbane	24	9	33
Outside Centres	36	16	52
State Totals	60	25	85
Hospitals—			
Brisbane	24	20	44
Outside Centres ..	18	6	24
State Totals	42	26	68
Clinics—			
Brisbane	371	45	416
Outside Centres	44	13	57
State Totals	415	58	473

TABLE XVI.

Marital Status.

——	Males.	Females.	Total.
Married	109	46	155
Single	393	44	437
Separated	9	6	15
Widowed	1	8	9
Divorced	4	2	6
Unknown	1	3	4
	517	109	626

TABLE XVII.

Showing Age Groups of Notified Cases.

Age Group	Males.	Females.	Total.
Unknown	19	15	34
Under 1 year	1	1	2
1–5 years	0	5	5
6–10 years	2	6	8
11–15 years	2	3	5
16–20 years	51	20	71
21–25 years	172	15	187
26–30 years	105	16	121
31–35 years	55	8	63
36–40 years	45	4	49
41–45 years	22	7	29
46–50 years	11	3	14
51–55 years	9	3	12
56–60 years	12	2	14
61–65 years	9	..	9
Over 65 years	2	1	3
	517	109	626

Departmental ad hoc Clinics for Females.
Record of Activities 1950-51.

A. Women's Clinic.

Total interviews	1,677
New cases	148
Notifications	67
Arsenical injections	77
Bismuth	325
Vaccine	23
Penicillin	512
Smears	1,238
Bloods	372
Dark grounds	6
Trichomonas	6
Patients cultured	300
Number of cultures	897
Treatment for Thrush, &c.	13
Discharged	25

B. William St. Rooms (examination of prostitutes).

Examinations	1,393
Bloods	213
Arsenical injections	4
Bismol	27
Dark grounds	3
Smears	4,072
Patients cultured	18
Number of cultures	53

C. Notifications from Women's Clinic.

Gonorrhoea—		
Acute	29	
Sub-acute	4	
Chronic	7	
		40
Syphilis—		
Primary	1	
Secondary	3	
Latent	4	
Treated	10	
		18
Syphilis and Gonorrhoea—		
Early latent Syphilis and chronic Gonorrhoea	1	
Treated Syphilis and chronic Gonorrhoea	1	
		2
Totals		60

Of these patients 10 were professional prostitutes suffering from—	
Gonorrhoea—	
Acute	6
Chronic	3
Syphilis, Primary	1
	10

D. Examination of Female Prisoners at H.M. Prison (100)

Prisoners notified as suffering from Venereal Disease (7).	
Gonorrhoea—	
Acute	1
Sub-acute	1
Chronic	3
Syphilis—	
Primary	1
Latent	1

In addition some 25 girls were examined before admission to St. Mary's Home at Toowong. One of these was found to be suffering from gonorrhoea and is included in the above figures.

Four contacts of male patients suffering from early syphilis were given a course of prophylactic treatment.

Departmental ad hoc Clinic for Males.

A. Record of activities—

New Cases	963	
Total visits	8,589	
Notifications	371	
Injections—		
Arsenic	115	
Bismuth	528	
Penicillin	1,038	
Bloods submitted (W.R., &c.)	1,529	
Smears—		
To Departmental laboratory	278	
Examined at clinic	2,238	
Dark Ground tests at Clinic	219	

B. Notifications (dissected)—

Early syphilis—		
Primary	54	
Secondary	2	
Latent	7	
		63
Late—		
Secondary	2	
Tertiary	4	
Pre-natal	1	
Latent	4	
		11
Gonorrhoea—		
Acute	269	
Sub-acute	1	
		270
Venereal (genital) warts		24
Soft sore		3
Total		371

C. Non-specific Urethritis.—This condition accounts for the bulk of the remainder. The term includes a variety of conditions some of which are venereally acquired—but no form of non-specific urethritis is notifiable. Some forms of it have been very intractable to treatment but the newer antibiotics such as aureomycin, chloramphenicol, &c., will be useful aids in certain cases when they are in more plentiful supply.

General Observations.

In view of the changing position regarding venereal disease as a public health problem, due to better improved methods of diagnosis and treatment—major activities which it is suggested should be carried out in the next fiscal year should include:—

1. An examination of the set-up of all hospitals which in the past have been in receipt of certain allowances for conducting clinical facilities (mainly irrigation rooms, &c.) with a view to a more up-to-date approach.

2. The collection of data and the writing of a history of the anti-venereal disease activities of this Department since it was first started in 1913. Some of the older officers will be passing on, and old records tend to get lost, and with venereal disease now passing from a major to a minor public health problem (relatively) the time is now ripe for this addition to the archives of preventive medicine. One hesitates to contemplate the problem venereal disease might have been, had not chemotherapeutic and antibiotic aids come to the rescue during the past ten years.

SECTION OF FOOD AND DRUGS.

During the year the Section of Food and Drugs has continued its operations under the Pure Food and Drug Sections of the Health Acts, the Health (Food Supply) Regulations, Food and Drug Regulations, Health (Insecticides) Regulations, Poisons Regulations, Milksellers Regulations, and the Footwear Regulations.

Milk.—The work of controlling the purity of milk supplies throughout the State has been energetically carried out, and inspection of premises and sampling of milk continued.

Inspections of pasteurised milk factories have been systematically made, and where substandard conditions have been met prompt action has been taken to secure the necessary improvement. Matters receiving particular attention at these factories included:—

(*a*) Structure of premises.
(*b*) Suitability of equipment.
(*c*) Lay-out of equipment.
(*d*) Staff organisation and control.
(*e*) Precautions taken to maintain premises and equipment in a sanitary condition.

The quality of pasteurised milk sold to the public has been regularly checked and found to be generally of a high standard.

The quantity of pasteurised milk consumed in the State continues to increase as the public realises the protection afforded by heat-treated milk, and factories are now in operation in Southport, Merrimac, Warwick, Toowoomba, Brisbane, Booval, Nambour, Maryborough, Bundaberg, Rockhampton, Mackay, Innisfail, and Cairns. In these centres the percentage of raw milk sold by retail vendors has naturally decreased by a considerable extent, and this fact is reflected in the reduction in the number of samples of this type of milk secured for chemical analysis by the Department's officers.

Three thousand one hundred and six persons were licensed as milksellers for the purposes of section 115 of the Health Acts. In one instance an application for a Milkseller's License was refused as the applicant had previously been convicted of selling adulterated milk, and a license was cancelled after the holder had been twice convicted of selling watered milk.

There were forty prosecutions for the offence of selling milk adulterated with water. The quantity of water added in these cases ranged from 4 to 52 per cent. Two of the prosecutions were for second offences.

It is of interest to note, as reported by the Government Analyst, that there was a considerable increase in the proportion of milk samples adulterated with water. However, this increase is not an accurate indication of the state of the milk supply, but is attributed to the fact that the Department's inspectors, by co-operating with officers of the Department of Agriculture and Stock, have been able to select suppliers suspected of forwarding adulterated milk to factories. This procedure has obviated the necessity of officially sampling hundreds of cans of milk in transit. The watering of milk is still a lucrative business for the dishonest dairyman, and will continue to be so until such times as fines commensurable with the offence are imposed. It is rarely that any magistrate inflicts more than the minimum penalty for the grave offence of selling adulterated milk.

In Queensland, the owner of adulterated milk is prosecuted on the average adulteration found in the several samples. The result is that a large volume of milk, which may be contained in many cans, receives only one fine for the average adulteration found over all of the cans. This procedure can make milk adulteration lucrative to the large suppliers. Of twenty English cases of milk adulteration reported in the British Food Journal during 1950, the defendant in eleven instances was proceeded against for the adulteration in each can or churn. This meant that, whilst the fine imposed on each summons was below or near our legal maximum, the total fine imposed far exceeded any fine imposed under the Queensland Health Acts as at present constituted.

A number of vendors was successfully proceeded against for various breaches of the Milkseller's Regulations such as the use of unsuitable delivery vehicles, milk vessels not provided with lids, and milk taps unprotected from dust. Two milk companies were prosecuted for having pasteurised milk in unclean bottles, whilst two prosecutions were launched for the offence of failing to mark pasteurised milk with the day of bottling.

Details of prosecutions are given in the following tables:—

TABLE XVIII.

Prosecutions for Milk Adulteration for Year 1950–51.

Date.	Place.	Fines.			Costs.		
		£	*s.*	*d.*	£	*s.*	*d.*
1950—							
10th July	Howard	19	0	0	3	9	0
26th July	Yandina	12	0	0	1	7	0
12th September	Rockhampton	15	0	0	1	7	0
26th September	Maryborough	10	0	0	1	7	0
26th September	Maryborough	10	0	0	1	7	0
26th September	Maryborough	16	0	0	1	7	0
13th October	Brisbane	14	0	0	1	7	0
13th October	Brisbane	11	0	0	1	7	0
13th October	Ingham	15	16	0	4	4	0
17th October	Woodford	5	0	0	1	7	0
17th October	Woodford	4	0	0	1	7	0
17th October	Woodford	20	0	0	3	9	0
17th October	Woodford	20	0	0	1	7	0
25th October	Brisbane	6	0	0	1	7	0
31st October	Home Hill	16	0	0	1	7	0
2nd November	Brisbane	27	6	0	2	14	0
14th November	Bundaberg	13	0	0	1	7	0
14th November	Bundaberg	5	0	0	1	7	0
14th November	Bundaberg	13	0	0	1	7	0
28th November	Brisbane	8	0	0	1	7	0
28th November	Brisbane	9	10	0	1	7	0
1st December	Brisbane	7	16	0	1	7	0
1st December	Brisbane	10	4	0	1	10	0
6th December	Charters Towers	16	0	0	1	7	0
6th December	Brisbane	12	0	0	4	10	0
12th December	Rockhampton	12	0	0	3	12	0
12th December	Rockhampton	6	0	0	1	7	0
13th December	Brisbane	7	0	0	1	7	0
13th December	Wondai	5	0	0	1	7	0
14th December	Nanango	10	0	0	1	7	0
15th December	Brisbane	13	0	0	1	7	0
19th December	Brisbane	4	0	0	1	7	0
1951—							
18th January	Gayndah	15	0	0	3	10	0
18th January	Biggenden	10	0	0	1	7	0
28th January	Nambour	40	0	0	1	7	0
8th February	Tara	9	0	0	1	7	0
27th February	Landsborough	7	0	0	1	7	0
19th March	Townsville	22	0	0	3	9	0
13th June	Rockhampton	20	0	0	4	10	0
13th June	Rockhampton	10	0	0	3	9	0
Totals		505	12	0	77	9	0

TABLE XIX.

Milk Prosecutions for Fat Deficiency.

Date.	Place.	Fines.			Costs.		
		£	*s.*	*d.*	£	*s.*	*d.*
1950—							
7th August	Brisbane	6	11	0	3	9	0
6th November	Roma	3	0	0	1	7	0
13th December	Townsville	1	0	0	1	7	0
1951—							
4th February	Mitchell	8	0	0	1	7	0
26th April	Townsville	10	0	0	1	7	0
Totals		28	11	0	8	17	0

TABLE XX.

MISCELLANEOUS PROSECUTIONS OF MILKSELLERS.

Date.	Place.	Basis of Prosecution.	Fines.			Costs.		
			£	s.	d.	£	s.	d.
1950—								
10th July	Bundaberg	Unsuitable vehicle	2	0	0	0	6	0
7th August	Brisbane	Sale of milk without a license	2	12	0	2	8	0
15th August	Brisbane	No lid on milk vessel	3	0	0	0	6	0
25th October	Brisbane	Sale of milk without a license	2	0	0	0	6	0
31st October	Home Hill	Tap not protected from dust	1	0	0	0	6	0
31st October	Home Hill	Name and address not on vehicle	1	0	0	0	6	0
14th November	Brisbane	Bottling milk by hand	2	0	0	0	6	0
4th December	Rockhampton	Unsuitable vehicle	5	0	0	0	6	0
4th December	Toowoomba	Sale of milk without a license	2	0	0	0	6	0
5th December	Dalby	Sale of milk without a license	2	0	0	0	6	0
5th December	Dalby	Tap not protected from dust	5	0	0	0	6	0
5th December	Dalby	No lid on milk vessel	5	0	0	0	6	0
5th December	Dalby	Name and address not on vehicle	1	0	0	0	6	0
19th December	Toowoomba	Dirty tap covers	20	0	0	3	9	0
1951—								
8th January	Stanthorpe	Tap not protected from dust	5	0	0	0	6	0
8th January	Stanthorpe	No lid on milk vessel	5	0	0	0	6	0
11th January	Jandowae	Tap not protected from dust	5	0	0	0	6	0
11th January	Jandowae	No lid on milk vessels	5	0	0	0	6	0
12th January	Ipswich	Sale of milk without a license	2	0	0	2	8	0
22nd January	Mackay	Tap not protected from dust	2	0	0	0	6	0
2nd February	Rockhampton	Unsuitable vehicle	5	0	0	0	6	0
7th February	Brisbane	Pasteurised milk wrongly dated	4	14	0	0	6	0
7th February	Brisbane	Pasteurised milk wrongly dated	4	14	0	0	6	0
6th April	Rockhampton	Unsuitable vehicle	3	0	0	0	6	0
6th April	Rockhampton	Name and address not on vehicle	1	0	0	0	6	0
12th April	Brisbane	Sale of milk without a license	3	0	0	0	6	0
12th April	Brisbane	Unsuitable milk vehicle	3	0	0	0	6	0
16th April	Mackay	No lid on milk vessel	1	0	0	0	6	0
3rd May	Redcliffe	Sale of milk without a license	1	0	0	0	6	0
10th May	Brisbane	Pasteurised milk wrongly dated	10	0	0	0	6	0
11th May	Rockhampton	Name and address not on vehicle	0	14	0	0	6	0
14th May	Brisbane	Sale of milk without a license	10	0	0	0	6	0
13th June	Rockhampton	Unsuitable vehicle	5	0	0	0	6	0
13th June	Rockhampton	Name and address not on vehicle	1	0	0	0	6	0
13th June	Rockhampton	Unsuitable vehicle	3	0	0	0	6	0
13th June	Rockhampton	Name and address not on vehicle	1	0	0	0	6	0
28th June	Brisbane	Pasteurised milk sold in dirty bottle	10	0	0	4	3	6
28th June	Barcaldine	Unsuitable vehicle	2	0	0	0	6	0
28th June	Barcaldine	Tap not protected from dust	2	0	0	0	6	0
28th June	Barcaldine	Unsuitable vehicle	2	0	0	0	6	0
28th June	Barcaldine	Tap not protected from dust	2	0	0	0	6	0
Totals			152	14	0	23	10	6

SPIRITUOUS LIQUORS.

Hotel bars have been visited and the spirits tested for their alcoholic strength. The cleansing of drinking glasses and the denaturing of waste beer has received special attention, and in places where a public water supply existed the use of approved mechanical glass washers has been insisted upon.

A list of prosecutions launched against hotelkeepers is contained in the table following. In the case of the prosecution at Surat the Stipendiary Magistrate ordered the forfeiture to the Crown of 41 bottles of the adulterated liquor, whilst at Blackall the forfeiture of 2 bottles of adulterated rum was ordered.

In connection with the cases at Beenleigh, Mount Coolan, and Surat the magistrate ordered that the hotelkeepers' licenses be endorsed, and that a notice of each conviction be displayed in the relevant bar.

TABLE XXI.

LIQUOR PROSECUTIONS FOR YEAR, 1950–51.

Date.	Place.	Basis of Prosecution.	Fines.			Costs.		
			£	s.	d.	£	s.	d.
1950—								
29th August	Beenleigh	Whisky adulterated with added water	10	0	0	3	9	0
12th December	Mt. Coolan	Whisky adulterated with added water	10	0	0	1	7	0
12th December	Mt. Coolan	Rum adulterated with added water	10	0	0	1	7	0
18th December	Gympie	Whisky adulterated with added water	10	0	0	1	13	0
11th January	Jandowae	Whisky adulterated with added water	3	8	0	6	12	0
13th February	Pittsworth	Gin adulterated with added water	2	0	0	3	9	0
2nd March	Surat	Rum adulterated with added water	15	0	0	1	7	0
14th June	Clifton	Whisky adulterated with added water	5	0	0	6	12	0
26th June	Blackall	Rum adulterated with added water	20	0	0	1	7	0
Totals			85	8	0	27	3	0

Minced Meat and Sausages.

Out of six samples of minced meat secured from retail butchers five were adulterated with the preservative substance sulphur dioxide. In addition, three samples of sausages were found to contain more than the prescribed quantity of preservative. Each year a number of butchers are proceeded against for offences of this nature, and the following table gives a detailed list of prosecutions succesfully taken during the past year:—

TABLE XXII.

Prosecutions for Adulterated Minced meat and Sausages for year, 1950–51.

Date.	Place.	Name of Article and Quantity of Preservative (Sulphur Dioxide) Present.	Fines.	Costs.
1951—			£ s. d.	£ s. d.
10th January ..	Brisbane	Sausages adulterated with 7·3 grains per pound of SO_2	7 10 0	1 7 0
10th January ..	Brisbane	Sausages adulterated with 6·8 grains per pound of SO_2	6 0 0	1 7 0
10th January ..	Brisbane	Sausages adulterated with 10·0 grains per pound of SO_2	7 10 0	1 7 0
17th May	Brisbane	Minced meat adulterated with 3·2 grains per pound of SO_2	3 13 0	1 7 0
17th May	Brisbane	Minced meat adulterated with 4·3 grains per pound of SO_2	3 13 0	1 7 0
17th May	Brisbane	Minced meat adulterated with 1·7 grains per pound of SO_2	3 10 0	1 10 0
5th June	Brisbane	Minced meat adulterated with 5·5 grains per pound of SO_2	4 0 0	1 7 0
5th June	Brisbane	Minced meat adulterated with 6·5 grains per pound of SO_2	5 0 0	1 7 0
Totals			40 16 0	10 19 0

Although it is recognised that fines alone do not prevent adulteration of food being a payable proposition in many cases, the press publicity which follows conviction makes the average food seller more careful in future.

Fish Supply.

Two full-time inspectors continue to attend all sales of fish at the Brisbane Fish Market. These officers also inspect retail fish shops and examine on board ship and on the wharves consignments of cured fish arriving in the port of Brisbane from overseas.

During the past year some twenty tons of assorted fish have been condemned as unfit for human consumption. This fish was denatured by our officers before its removal for conversion into fertilizer.

Details of the fish condemned are given in the following table:—

TABLE XXIII.

Showing Quantity of Fish Condemned and Destroyed at the Fish Board Market, South Brisbane, for Year 1950–51

Class of Fish.	Weight.			
	T	C.	Q.	L.
Barramundi	0	0	0	25
Batfish	0	0	0	16
Black King	0	0	0	3
Bream	2	2	2	20
Cod	0	0	1	6
Coral Bream	0	0	3	2
Flathead	0	1	0	25
Jew	0	1	0	2
Jobfish	0	0	0	4
John Dory	0	0	1	27
King Salmon	0	0	1	3
Leather Jackets	1	0	2	19
Mackerel	1	5	3	14
Marlin	0	0	0	4
Mixed Fish	0	13	0	18
Mullet	11	8	0	10
Parrot	0	0	1	24
Perch	0	0	0	9
Pike	0	4	2	18
Ray	0	0	0	16
Red Emperor	0	0	2	1
Samson	0	0	0	14
Schnapper	0	3	3	8
Shark	0	1	0	10
Smoked Fish	0	1	3	24
Sole	0	2	2	0
Squire	0	1	0	11
Sweetlip	0	5	2	17
Tailer	1	12	3	0
Trevalli	0	0	0	22
Trout	0	1	2	24
Turrum	0	0	0	17
Whiting	0	9	2	25
Total	20	1	2	18

also:—

Oysters .. .. 8 sugar bags and 133 bottles
Prawns .. .. 3 tons 3 cwt 2 qrs. 12 lbs.
Fish Roes .. .. 1 cwt. 1 qr. 24 lbs.

General Inspections.

Inspections carried out by inspectors included visits to warehouses, milk, and other food factories, general stores, cafés, butcheries, bakehouses, hotels, chemists' shops, doctors' surgeries, auction rooms, wharves, showgrounds, and racecourses. Large quantities of contraband tobacco and cigarettes were examined from time to time at the King's warehouse.

Structural improvements have been secured during the year to food stores, factories, and cafés, and notices have been served on a number of other food sellers requiring that their premises be brought into conformity with the requirements of the Food and Drug Regulations. In one instance the immediate closure of a café was ordered owing to the unsuitability of the premises.

Unsound and Deteriorated Foods and Drugs.

Arising out of inspections by the Department's officers, deteriorated and unsound food material of a total weight of 32 tons 7 cwt. 3 qr. 15 lb. has been withdrawn from sale, in addition to which a quantity of medicines, tobacco, cigarettes, &c., has been destroyed under supervision. Details of material so dealt with are contained in the following table:—

TABLE XXIV.

Showing Quantities of Food Destroyed in Year 1950–51.

Article.	Weight.			
	T.	C.	Q.	L.
Bacon	0	6	2	20
Baking Powder	0	5	0	20
Biscuits	0	0	0	19
Breakfast Foods	0	4	1	8
Cakes	0	0	3	12
Cake and Scone Mixtures	0	0	2	8
Cereals	0	4	2	6
Cheese	0	3	0	17
Chutney	0	2	0	6
Cocoa	0	0	0	17
Cocoanut (Dessicated)	0	0	1	20
Coffee	0	0	0	1
Confectionery	0	1	3	25
Cornflour	0	0	1	19
Cream of Tartar	0	0	0	3
Curry Powder	0	0	0	2
Custard Powder	0	0	2	5
Fish (canned)	4	17	2	11
Fish (fresh) (exclusive of Table XXIII.)	0	9	0	24
Fish (dehydrated)	0	2	3	3
Fish Pastes	0	2	2	6
Flour	4	15	3	20
Fruit (fresh)	1	2	3	19
Fruit Juice (canned)	0	0	1	8
Fruit Spreads	0	2	2	26
Fruit (preserved)	3	2	1	27
Gravy Maker	4	12	1	19
Ham	0	3	2	24
Honey	0	0	2	27
Ice Cream Mix	1	1	1	15
Infant's Food	0	3	2	0
Jams and Preserves	3	17	3	3
Jellies, Jelly Crystals and Junkets	0	0	0	13
Lemon Butter	0	0	0	15
Macaroni	0	4	2	17
Mayonnaise	0	0	0	21
Meat (canned)	0	6	1	22
Meat Extract	0	0	1	3
Milk (condensed)	0	0	0	1
Milk (powder)	0	3	0	17
Mustard	0	0	2	0
Nuts	0	0	0	12
Oils and Fats	0	0	0	21
Pastes and Spreads	0	5	0	5
Pickles	0	1	1	25
Prawns	0	4	1	3
Puddings and Pies	0	1	0	15
Rice	0	0	2	18
Salt	0	0	0	10
Sauces	0	0	3	5
Soups (canned)	0	1	2	27
Spaghetti	0	1	3	26
Spices	0	0	0	6
Sugar	0	3	3	0
Syrup	0	0	2	14
Tea	0	0	3	24
Vegetables (fresh, canned, and vegetable extracts)	4	5	1	13
Vinegar	0	0	0	4
Total	32	10	3	21

TABLE XXIV.—*continued.*

Showing Quantities of Food Destroyed in Year 1950–51—*continued.*

also :—

166 bottles of Cordials.
2½ lb. Talcum Powder.
2qrs. 3lb. of Miscellaneous Medicines.
129 packets of Headache Powders.
6 bottles of Disinfectant.
6 cwt. 3 qrs. 17 lb. of Tobacco.
275,791 Cigarettes.
174 Cigars.
55 packets of Cigarette Papers.

Bread.

One hundred and fifty-four samples of bread were submitted to the Government Analyst.

Special surveys of the quality of bread were conducted particularly at Brisbane, Rockhampton and Townsville. Apart from some instances where the loaves were either underbaked or contained excess moisture, the white bread was found to comply with the legal standard and to be of fair average quality.

In a number of instances samples of brown bread and wholemeal bread were found to be deficient in the minimum proportion of wholewheat flour required to be present, and suitable remedial measures were taken in each case.

An anomalous position has arisen with so-called "starch reduced" bread. The term is misleading in that nothing is added and nothing is taken away from the flour with which it is made. One proposal is that these special breads should be called "protein rich" but this too is rather meaningless. It is probable that some standard for these special breads will be established, based on the gluten content of the loaf. At present the active co-operation of this Section with the Department of Weights and Measures and with the Prices Commissioner is required to ensure that the public is not exploited.

Complaints of bread being contaminated with foreign articles were investigated, and as a result prosecutions were successfully taken in two instances against the bakers responsible. In one case the loaf contained a mouse, and in the other the foreign matter consisted of pieces of paper.

The result of these cases is given in the following table of miscellaneous prosecutions:—

TABLE XXV.

SHOWING PROSECUTIONS FOR MISCELLANEOUS OFFENCES DURING THE YEAR, 1950–51.

Date.	Place.	Basis of Prosecution.	Fines.			Costs.		
			£	s.	d.	£	s.	d.
1950—								
31st July	Rockhampton	Food exposed to contamination	15	0	0	2	8	0
11th September	Toowoomba	Bread containing a mouse	10	0	0	0	6	0
18th September	Rockhampton	Food exposed to contamination	5	0	0	0	6	0
8th November	Brisbane	Bread containing piece of paper	14	14	0	0	6	0
14th November	Proserpine	Dirty bakehouse	5	0	0	0	6	0
14th November	Proserpine	Dirty bakehouse utensils	5	0	0	0	6	0
21st November	Oakey	Wholemeal bread deficient in wheatmeal flour	1	0	0	5	11	0
21st November	Oakey	Brown bread deficient in wheatmeal flour	1	0	0	1	13	0
21st November	Oakey	Wholemeal bread deficient in wheatmeal flour	1	0	0	1	7	0
8th December	Bowen	Food exposed to contamination	5	0	0	0	6	0
19th December	Toowoomba	Cake containing dirty piece of rope	5	0	0	0	6	0
1951—								
22nd January	Mackay	Food exposed to contamination	1	0	0	0	6	0
25th January	Bowen	Fruit drink misdescribed	5	0	0	1	7	0
19th February	Rockhampton	Food exposed to contamination	5	0	0	0	6	0
16th April	Mackay	Dirty food premises	3	0	0	0	6	0
17th April	Gladstone	Dirty food premises	4	0	0	0	9	0
22nd June	Rockhampton	Food exposed to contamination	5	0	0	0	6	0
		Totals	£90	14	0	£16	1	0

CONTROL OF PROPRIETARY NON-ETHICAL PATENT MEDICINES.

During the year several manufacturers of cosmetics containing oestrogenic hormones made strong representations to exempt these products from restriction so that sales could be made over the counter. Varying amounts of oestrogenic hormones are incorporated in these creams but the manufacturers claim that the amounts are so small that there is no risk of interference with bodily function in women; in fact, it is claimed that the hormone is not absorbed but remains in the skin to produce rejuvenating effects. These products are not restricted in some other States and the manufacturers consider that Queensland women are being unjustly deprived of an essential aid to beauty.

On the other hand, the point of view of this Section is that oestrogenic compounds, like all other hormones, are essentially potent substances, that their long-term effects are uncertain, and that their continued application in unrestricted amounts year after year may have dangerous residual effects. No authority will state that these substances are absolutely harmless in the quantities used. Until oestrogenic substances have been shown to be innocuous after prolonged local use, this Section holds that hormone creams should be used only under medical supervision. This view has been supported by a very eminent English research chemist who recently visited Australia.

It is rather interesting to note that patent medicines in general appear to have cycles of popularity. History records that clowns, tumblers, and purveyors of nostrums often joined mediaeval processions hoping thereby to profit by displaying their skills or by selling their wares to the large audiences gathered to watch the pageantry. Cancer cures were popular in this State some 25 years ago when cancer appeals held the public attention. When vitamins hit the public eye, mushroom manufacturers of unreliable vitamin preparations jumped on the band wagon. Today we are in the scientific age and live in a world of uncertainty and change. Consequently we are presented with tonics for tiredness, sedatives for mental stresses and strains, anti-acids for dyspepsia, and analgesics for headache and high blood pressure. Moreover, the advertising matter often claims that the remedy has been discovered after years of research by some obscure scientist, whose work never appears in reputable scientific journals. We have also hormone preparations for men and women who seek to prevent, postpone, or retard the inevitable ravages of time. Tomorrow it seems likely that the manufacturer of patent medicines will turn his attention to the byproducts of atomic fission or to revoluntionary new drugs such as cortisone and A.C.T.H. which now make headlines in the press.

One particularly blatant example of a nostrum designed to deceive the public is a product alleged to contain cortisone, whereas, in fact, it contained merely bile salts from which cortisone is derived only by a complex and costly process. Bile salts are as much like cortisone as grass is like cream.

Queensland has the strictest standards for patent medicines of any State in Australia. Although it is difficult to control advertising in interstate publications, the local press co-operates admirably with the Section of Food and Drugs, and submits advertising matter for scrutiny before publication. The public can rest assured that it will continue to be protected as far as possible from unscrupulous manufacturers who seek to mislead by false or extravagant claims. On the other hand, manufacturers of reliable proprietary preparations can be assured that the Section of Food and Drugs has no intention of depriving them of the Queensland market, if their product is harmless and their advertising moderate in tone. Needless to say, proprietary ethical pharmaceutical preparations marketed by firms of established reputation are not included in these remarks.

SAMPLING.

A total of 3,648 samples were submitted by this Section to the Government Chemical Laboratory for examination. These samples include:—Aerated drinks and cordials, bread,

cereals, condiments, confectionery, disinfectants, drugs or medicines, essences, fats, fish (canned), fruit and fruit juice, jam and jelly, meat, milk, milk products, oil paint, spirituous liquor, tobacco, toys, vegetables.

Bacteriological Sampling.

Eight hundred and thirty specimens, including the following articles, were submitted to the Director of the Laboratory of Microbiology for examination, viz.:—Apple juice, bread, bread and butter, brine, bottles, carrots, carrot juice, cereals, cheese, cigarettes, disinfectants and antiseptics, egg powder, fish (canned), milk, meat, oysters, pineapple juice, pineapple pieces, soap, tomato sauce.

Poisons and Dangerous Drugs.

The Poisons Regulations of 1947 require that any unqualified seller of Schedule I. or Schedule II. poisons or dangerous drugs shall be licensed. 832 licenses were held during the year 1950-51 for the sale of poisons by retail and wholesale, and 13 persons or companies were licensed to sell dangerous drugs.

Supervision of the packing, sale, and use of poisons and dangerous drugs has continued. This portion of the Section's duties entails considerable investigation work and examination of the records of pharmacists, doctors, and others.

As a result of this work, the packing and labelling of poisons has been corrected, and the proper keeping of records, by poison dealers, enforced. Where dangerous drugs have been misapplied warnings have been given to the offenders, whilst in one instance a medical practitioner was dealt with by the Tribunal set up under "*The Medical Acts,* 1939 *to* 1948."

SECTION OF ENVIRONMENTAL SANITATION.

Local Authority Administration.—Local Authorities are possessed of all the necessary powers and authority for the superintendence, enforcement, and execution of the State's health laws which have been promulgated for the progressive administration by each Local Authority as partners in the business of public health in the interests of the welfare of the whole State.

Practical and constructive sanitation, that is, "field work," in the hands of Local Authorities, is one of the chief defensive and offensive weapons for guarding the public health in their respective areas, and as such should be given a high priorty in the list of activities.

The primary causes of many diseases and sicknesses are due to bad sanitation, e.g., flies, mosquitoes, rats, fleas, cockroaches, dust, improper collection, removal, and disposal of nightsoil and refuse: non-flyproof closets; nuisances and insanitary conditions of all kinds and descriptions; bad housing; overcrowding; defective and offensive domestic drainage; dirty yards, lanes, and street gutters; insanitary public conveniences, &c. The control of all these intimate environmental conditions comes within the term "field sanitation," and within the statutory duty of each Local Authority.

Progress or otherwise in the sanitation of any area depends on:—

(1) The attitude of Local Authorities in the acceptance of their responsibilities under the Health Acts and Regulations.

(2) The adequacy, competency, and attitude of the health staff to their responsibilities.

(3) The support and encouragement accorded by the Local Authority to its health staff.

Many Local Authorities are not deeply health conscious, and the line of least resistance is sometimes adopted when dealing with important, though non-spectacular health matters. Routine work proceeds along the well-trodden path of unchanged practice, and a pruned budget produces a minimum of effort, hence almost static conditions prevail in many areas. The standard of sanitation in any area is only equal to the standard formulated by the Local Authority.

The Local Authority health service is not adequate in numbers to cope with present demands of the State, and unless some scheme is devised to attract additional staff of the right type, Councils will not be in a position to meet the problems and difficulties of the future due to increasing population and rapid industrial development.

The distribution of health inspectors is principally confined to the Darling Downs, and coastal districts, and is as follows:—

Brisbane, 1 chief inspector, 1 deputy chief inspector, 22 inspectors, 3 assistant inspectors	27
Cities, eleven (11), 20 inspectors	20
Towns, eight (8), 8 inspectors	8
Towns, three (3) included in combined areas ..	Nil
Towns, one (1), State inspector, acts as L.A. Inspector	1
Shires, thiryt-two (32), 1 inspector each (7 vacancies)	25
Shires, seventy-two (72), 25 Joint Areas, 3 vacancies	22
*Vacancies	10
Total .. .. 103 Inspectors	
10 Vacancies	
113	

* One (1) appointment, awaiting arrival from England.

It will be noted that seventy-two shires are combined into 25 joint health areas. Many of these areas are much too extensive for one inspector to control effectively. It is planned to divide these large areas into smaller ones, and eventually for each Local Authority to have its own inspector, but unfortunately progress in this direction cannot be pressed at the present time due to the dearth of qualified personnel.

The services of an inspector are essential for the important field work of regular inspection of premises, and the supervision of sanitary services. Experience has shown that in areas without an inspector insanitary conditions can exist and persist. In areas vacated by an inspector where no further appointment has been made, the sanitary conditions rapidly deteriorate, and unhygienic practices speedily supersede the former controlled conditions.

It is suggested that Local Authorities especially in the cities and more densely populated communities could do much to improve the future outlook by the appointment of cadet inspectors as future members of their health services.

Nightsoil Removal and Disposal.—The main problem of cities, towns, and township is centred round the efficient and sanitary collection, removal and disposal of all its human and domestic wastes quickly, and without offence or nuisance. Only a few towns have complete water carriage systems and a number are only partially sewered with no immediate hope of catching up with the rapidly growing suburban areas; hence the conservancy or pan system reigns as the chief organisation in the state for the removal and disposal of human waste. Unfortunately the great importance of this service is too often overlooked by local administration. In a water carriage sewerage system every detail is planned and worked out, finance is made available, and the works and conduct are well controlled, conducted, and supervised. This is not so in the conservancy system. In the majority of cases a contract is let, and promptly forgotten. Contractors do not run their business for the benefit of public health, but Council-controlled services are generally well conducted and managed.

The problem of labour and materials have handicapped Local Authorities in carrying out improvements and contractors have also experienced the same difficulty, but it has been observed that the best use is not made of the available labour and materials, and very little effort is exerted to overcome the problems. There has been a tendency for some councils to advocate reversion to cesspits, or back yard burial in smaller communities, and applications have been received for permission to adopt this primitive and retrograde method. Cesspits in a community are an abomination, and create breeding grounds for flies and cockroaches. Back yard burial of human excreta by occupiers of premises is open to grave malpractices, and can be a menace to the health of a community.

The high costs of labour and materials and the certainty of further increases have made contractors reluctant to lodge tenders, whilst Local Authorities prefer not to take the service under their own direct control. Nevertheless, whatever the cost, the standard reached, imperfect as it may be, must not be permitted to backslide into low standards and primitive methods. If we do not pay moderately for health we will pay heavily for ill-health. It is considered that a higher standard can be reached, and many of the problems solved by Local Authorities operating their own services.

Refuse Removal and Disposal.—As with nightsoil removal and disposal, the majority of services are carried out by contract, with the same consequences—business before health.

These services have not reached a high standard of operation or conduct which is revealed by the general absence of standard refuse bins for the storage and protection of waste foods and other domestic refuse on premises, open vehicles, irregular collections, and crude, haphazard tipping at place of disposal.

The absence of refuse bins creates accumulations of refuse in yards and allotments, especially on business premises. Attempts to burn off are mostly unsuccessful and heaps of half burned waste foods and other materials provide an attraction for rats, flies, and cockroaches.

Reform in storage and protection on premises, modern vehciles, organised collection, controlled tips, and the conversion of the services from contract to day labour are the essentials of a modern service required to meet present-day demands.

Controlled tips are now a recognised and well-established technical process of refuse disposal. The adoption of this method is a sound and economic investment, and should be practised by all Local Authorities as a routine operation. Land so reclaimed becomes a valuable asset to the community. The slogan might well be "Create an asset out of waste."

Plague Precautions.—All shipping centres have been periodically inspected and kept under supervision, and observations reveal that the restriction measures are successfully holding the rats in check on wharves and adjoining river walls.

In the Brisbane City area the wharves and river walls were constantly and regularly patrolled and baited, and a recent survey indicated that rats were controlled: 297,400 baits were laid on the river walls and 443 rats known to be destroyed; 189,200 baits were laid on the wharves and 1,106 rats were destroyed.

The Brisbane City Council employs 41 men on rat control work.

Rockhampton City Council employs 3 men, Mackay 1 man, Townsville 3 men. Townsville Harbour Board 1 man, Cairns 1 man, Ipswich 1 man, Maryborough 1 man, and Bundaberg 1 man.

A special investigation was made at the grain sorghum storage premises at Port Alma. Rat infestation was found, and the Rockhampton City Council's rat gang carried out destruction work. Rat proofing measures were recommended.

A campaign at Mackay is worthy of note. Sodium fluoride compound (''1,080'') baits were used—of 482 baits laid 208 were taken and 268 dead rats were counted. Ninety-two thousand (92,000) phosphorus baits killed 1,076 rats and 442 mice.

In Townsville the rat kill has increased as a result of sodium fluoride.

Reports received from Cairns indicate that most Local Authorities in the district carry out rat destruction campaigns, the extent of which vary with the requirements of the particular area. Measures adopted have been successful in keeping the rodents in check.

In Thursday Island the rat population has been considerably reduced by poisoning, removal of harbourages, provision of refuse bins, and weed control.

The total rats and mice destroyed by Local Authority operators during the year were:—

TABLE XXVI.

Area.	Rats.	Mice.
Brisbane	70,791	5,079
Bundaberg	750	..
Cairns	1,805	173
Gympie	71	..
Ipswich	1,768	..
Mackay	1,317	507
Maryborough	508	11
Rockhampton	4,812	..
Townsville	3,279	63
Totals	85,101	5,833
Grand Total	90,934	

Rat smears submitted to the Department's laboratory, Brisbane, for examination were:—

Metropolitan Area—	
Sandgate	917
Wynnum	600
Meatworks Wharf	163
Total	1,680
Extra Metropolitan Area—	
Bundaberg	724
Gympie	108
Ipswich	1,610
Mackay	1,332
Maryborough	234
Total	4,008

Rat smears submitted to Commonwealth Laboratories by Local Authorities at:—

Cairns	1,525
Townsville	2,318
Townsville Harbour Board	232
Rockhampton	4,560
Total	8,635

Toowoomba District.—The majority of night-soil services were well conducted, but refuse removal services in many areas do not reach a very high standard. The accumulations of half burned materials, including waste foods, in back yards, especially of the business premises reveals incomplete or irregular removal The majority of refuse tips are uncontrolled, and the covering over of the tipped refuse is neglected.

No new sewerage schemes were commenced during the year but Dalby Town Council is stock piling materials in anticipation of an early start with its scheme.

Stanthorpe Shire Council obtained a loan for its water supply scheme.

The new filtration plant for Goondiwindi's water supply is now on hand and its installation will eliminate the definite risk of contamination of the present public water supply.

Rockhampton District.—Sanitation progressed in some Local Authority areas, whilst in other areas conditions deteriorated to a marked degree especially in areas where no health inspector was employed.

As a result of persistent urging Rockhampton City and Shire Councils (with some exceptions) have procured and issued refuse bins to occupiers of premises as required by ''The Plague Prevention Regulations.''

In the Fitzroy Shire Council area a special survey of the defined sanitary areas was made owing to the breakdown of the nightsoil removal services and the conditions caused by back yard burial.

The appointment of an inspector for the Fitzroy Shire area is under consideration.

A re-survey of Gladstone was carried out. Improvements are planned for the reconditioning and covering of the refuse tip. The Council has ordered standard refuse bins for issue to occupiers.

An inspection of the Queensland-British Food Corporation's camp and housing settlement at Peak Downs was carried out in company with an officer of the Corporation and, as a result, some improvements were effected.

At Blackall progress on the town's sewerage scheme has been held up due to the withdrawal of the contractor. Fresh tenders for completing the scheme have been called.

Mackay District.—In nine larger townships the nightsoil removal is carried out by contract; four townships have the cesspit system, and in one a private contractor removes and disposes of approximately half the nightsoil, the remainder being dealt with by back yard burial and cesspits.

St. Lawrence is still without a nightsoil removal system, and despite recommendations from this Department, the very unsatisfactory conditions remain unabated.

New sanitary depots have been selected for Sarina and Collinsville, and sewerage schemes are being investigated for these two townships.

Bowen Town Council has prepared complete contour maps as the first stage of a sewerage system.

Townsville District.—In this district there are no health inspectors between Charters Towers and Mt. Isa, and thus the standard of sanitation is far from satisfactory. Recommendations forwarded to the Local Authorities have not received attention.

Ayr Shire Council and Mt. Isa Mines have each procured a modern refuse motor vehicle for refuse removal services.

The Hughenden sewerage scheme was officially opened during the year, and when completed in the near future will provide a water carriage system for from four to five hundred premises. Pan closets and many drainage nuisances which have persisted in this town for many years will be eliminated. West of Townsville the only other community provided with sewerage is Mt. Isa where the two main blocks only are reticulated.

Townsville continues to extend its house connections. Two hundred and forty-one new connections to the sewerage system were made during the year.

At Ayr, surveys and tests are being carried out for a reticulated water supply.

Townsville has made application for loan and subsidy on £22,500 for erection of twenty-three new blocks of public conveniences in the city and suburban areas, and plans are in hand for the establishment of a caravan park at Rowes' Bay complete with conveniences, showers, laundry, and shop.

Cairns District.—The sanitary services were maintained at a reasonable standard despite the difficulty experienced by Local Authorities in securing tenders from contractors.

New sanitary depots were inspected and approved for the Johnstone and Herberton Shires.

The Imhoff treatment plant at Kamma, Mulgrave Shire, is now in operation.

Mulgrave Shire Council has extended its sanitary areas to include Yorkie's Knob and Holloway's Beach, two popular seaside resorts north of Cairns.

Preliminary surveys and plans are well in hand for sewerage schemes at Cairns and Innisfail.

Atherton Shire Council has under consideration a scheme for the installation of septic tank systems on premises in lieu of a sewerage reticulated system.

Cairns City and Mulgrave Shire are conjointly engaged on the Behana Water Supply Scheme for their areas.

The water supply scheme for the augmentation of supply to Innisfail, and a reticulation system to adjacent areas is well advanced.

Eacham Shire Council's water supply scheme for Malanda is near completion.

Thursday Island.—An all-round improvement in the conduct of the sanitary services was recorded for the year. A new refuse removal vehicle was purchased and this service is now operating in a satisfactory manner. The refuse tip is well-controlled, is sprayed regularly as a fly-control measure, and kept well covered.

The water reserve has been extended and protected against any possible indiscriminate pollution.

Plans are in hand for the better drainage of the town, and the elimination of spade cut earth channels and drains.

Native huts are not of a high standard but these are kept under constant inspection and supervision.

For the control of the trochus fly, constant attention was given to trochus shell cargoes.

The general sanitation of the island has improved during the year but further improvement is required to better the environmental conditions.

Mosquito Eradication.

Subsidy of 50 per cent. granted during the year for approved mosquito eradication works is shown in the first column. In the second column is shown the total subsidies granted since the inception of the subsidy in February, 1943.

TABLE XXVII.

Showing Subsidies Granted to Local Authorities in Queensland for Mosquito Eradication during 1950–51 and since February, 1943.

Local Authority.	Subsidies for 1950–51.			Total Subsidies, 1943–51.		
	£	*s.*	*d.*	£	*s.*	*d.*
Brisbane City	108,065	2	5	478,361	6	6
Rockhampton City	2,070	0	0	14,928	0	0
Townsville City	19,141	0	0	44,445	14	0
Toowoomba City	4,628	0	0	9,658	0	0
Ipswich City	7,500	0	0	29,131	8	2
Cairns City	16,959	0	0	43,679	0	0
Bundaberg City	2,366	0	0	9,562	5	0
Maryborough City	514	0	0	12,131	6	6
Mackay City	3,506	0	0	13,431	0	0
Gympie City	1,468	17	4	4,008	17	4
Charters Towers City	500	0	0	1,312	0	0
Warwick Town	..			2,939	0	0
South Coast Town	500	0	0	27,301	0	0
Redcliffe Town	4,545	0	0	27,109	2	11
Gladstone Town	1,115	0	0	8,260	0	0
Dalby Town	3,225	0	0	7,819	0	0
Roma Town	250	0	0	1,242	0	0
Charleville Town	..			2,356	0	0
Bowen Town	120	0	0	2,910	0	0
Goondiwindi Town	..			13,570	0	0
Thursday Island Town	1,000	0	0	1,000	0	0
Aramac Shire	..			27	0	0
Albert Shire	..			1,000	0	0
Barcaldine Shire	..			485	0	0
Beaudesert Shire	..			3,300	0	0
Blackall Shire	..			857	0	0
Burrum Shire	500	0	0	2,255	0	0
Boonah Shire	650	0	0	2,930	15	0
Cardwell Shire	..			700	0	0
Chinchilla Shire	..			3,500	0	0
Caboolture Shire	..			1,068	0	0
Cloncurry Shire	3,000	0	0	8,000	0	0
Douglas Shire	2,400	0	0	4,800	0	0
Esk Shire	..			153	0	0
Emerald Shire	150	0	0	300	0	0
Eacham Shire	332	0	0	997	0	0
Herberton	..			1,043	0	0
Hinchinbrook Shire	527	0	0	6,665	0	0
Inglewood Shire	..			2,413	10	0
Isis Shire	..			4,277	0	0
Isisford Shire	500	0	0	500	0	0
Johnstone Shire	1,500	0	0	6,532	9	2
Jondaryan Shire	..			11	0	0
Kingaroy Shire	..			323	0	0
Livingstone Shire	395	0	0	4,948	0	0
Longreach Shire	920	0	0	1,840	0	0
Mareeba Shire	2,260	0	0	2,760	0	0
Mirani Shire	..			918	15	0
Milmerran Shire	..			85	0	0
Monto Shire	..			111	4	0
Mundubbera Shire	2,000	0	0	2,357	0	0
Moreton Shire	..			2,602	0	0
Mulgrave Shire	..			18,260	0	0
Murgon Shire	..			1,500	0	0
Nerang (Albert) Shire	625	0	0	2,547	10	0
Pioneer Shire	..			3,329	0	0
Pioneer–Mackay Shire	..			1,000	0	0
Paroo Shire	..			6,000	0	0
Proserpine Shire	500	0	0	2,425	0	0
Rosewood Shire	..			3,205	0	0
Redland Shire	875	0	0	1,325	0	0
Sarina Shire	..			1,760	0	0
Stanthorpe Shire	1,071	0	0	7,571	0	0
Tara Shire	..			24	0	0
Tingalpa (Redland) Shire	..			625	0	0
Widgee Shire	..			1,361	0	0
Woongarra Shire	..			750	0	0
Woothakata (Mareeba) Shire	..			107	16	5
Wangaratta Shire	224	0	0	224	0	0
Wambo Shire	29	0	0	320	10	0

	£	*s.*	*d.*
Subsidies granted, 1950–51	195,930	19	9
Subsidies granted prior to 1950–51	792,183	10	1
Total Subsidies, 1943–51	£988,114	9	10

Applications were received from the following Local Authorities for 50 per cent. subsidy for the 1951-52 mosquito eradication programmes:—

Local Authority.	Estimated Cost.	Purpose.
	£	
Rockhampton City ..	8,000	Drainage works, Dean Street
Townsville City ..	42,156	Drainage works
Townsville City ..	10,000	Drainage works
Townsville City ..	10,996	Reclamation works
Toowoomba City ..	8,850	Creek improvements
Ipswich City ..	20,000	Drainage, Jacaranda, Bergin streets
Cairns City	10,000	Reclamation, Paramatta Park
Cairns City	150	Reclamation, Diehm street
Cairns City	5,000	Reclamation, Swamps
Mackay City ..	10,000	Drainage, Holland Street
Gympie City ..	3,000	Drainage, Whites Gully
South Coast Town ..	4,500	Drainage, Southport
Redcliffe Town ..	9,204	Drainage, Clontarf
Redcliffe Town ..	2,304	Reclamation, Scarborough
Gladstone Town ..	2,000	Reclamation, Low lying ground
Dalby Town ..	14,000	Drainage
Thursday Island Town	500	Drainage and other control works
Atherton Shire ..	450	Drainage, Atherton
Boonah Shire ..	2,000	Drainage, Boonah
Burrum Shire ..	8,000	Drainage, Hervey Bay swamps
Livingstone Shire ..	225	Drainage, Section 8, Yeppoon
Milmerran Shire ..	25	Reclamation of swamp
Murgon Shire ..	4,000	Drainage, Murgon Creek
Paroo Shire	2,000	Drainage, Cunnamulla
Pioneer Shire ..	7,500	Drainage works
Pine Shire	10,000	Drainage, Petrie
Pine Shire	5,000	Drainage, Dayboro
Stanthorpe Shire ..	2,500	Drainage, Stanthorpe
Woongarra Shire ..	8,633	Drainage works
Johnstone Shire ..	5,750	Reclamation, low lying lands

Toowoomba City Council has completed the strengthening and stonepitching of Gowrie Creek for a considerable portion of its course through the city. Further work will be carried out on the east branch of the creek. Spring waters which have erupted in the Newtown Park area, causing mosquito breeding, will be drained.

Dalby, Stanthorpe, and Inglewood have plans in hand for storm water drains, and concrete water channelling.

Rockhampton, Gladstone, and Livingstone carried out permanent mosquito eradication works under the 50 per cent. subsidy, and further works are listed for 1951-52 programmes.

Mackay carried out a comprehensive spraying campaign over tidal flats and swamps comprising an area of 5,400 acres. Diesel fuel sawdust swabs containing 5 per cent. D.D.T. were also used in the swamps and were found to be effective for about twelve months. Surveys made, particularly after "king" tides, failed to reveal any mosquito breeding so thoroughly had the areas been covered. The campaign cost £2,200. Cost per head was 2s. 7d., and $8\frac{1}{7}$ d. per acre.

Bowen Town Council have completed the 50 per cent. subsidy drainage scheme for Thomas and Dalrymple streets.

Control measures by spraying were also carried out by Proserpine Shire Council.

Townsville City Council budgeted £9,365 for general mosquito control on which the 30 per cent. subsidy was granted. In addition drainage works estimated at £43,000 and reclamation of low-lying mosquito breeding areas were commenced as subsidised works.

Hinchinbrook Shire Council continued spraying control measures, and drainage works are in hand estimated at £1,005.

City of Cairns, and the Shires of Johnstone and Mulgrave, have major drainage and land reclamation schemes in hand, and other Local Authorities in this district have projects approved or under consideration. From a malaria point of view mosquito prevention and eradication is very important in this coastal part of the State.

In Thursday Island drainage works, estimated at £500, for mosquito eradication are in hand.

Loan and Subsidy Works.

The list hereunder shows the number of Councils who are providing public accommodation in community centres and seaside resorts.

Local Authority.	Estimated Cost.	Subsidy.	Purpose.
	£	Per Cent.	
Toowoomba City..	667	$33\frac{1}{3}$	Public Accommodation Communities— Camping Areas and Seaside Resorts
Cairns City ..	1,667	$33\frac{1}{3}$	
South Coast Town	8,167	$33\frac{1}{3}$	
Dalby Town ..	1,333	$33\frac{1}{3}$	
Warwick Town ..	2,000	$33\frac{1}{3}$	
Beaudesert Shire..	419	$33\frac{1}{3}$	
Burrum Shire ..	1,000	$33\frac{1}{3}$	
Caboolture Shire ..	2,500	$33\frac{1}{3}$	
Crow's Nest Shire	200	$33\frac{1}{3}$	
Eacham Shire ..	400	$33\frac{1}{3}$	
Gooburrum Shire..	200	$33\frac{1}{3}$	
Hinchinbrook Shire	1,600	$33\frac{1}{3}$	
Johnstone Shire ..	1,400	$33\frac{1}{3}$	
Kilkivan Shire ..	2,100	$33\frac{1}{3}$	
Livingstone Shire	89	$33\frac{1}{3}$	
Milmerran Shire ..	473	$33\frac{1}{3}$	
Murgon Shire ..	803	$33\frac{1}{3}$	
Mulgrave Shire ..	800	$33\frac{1}{3}$	
Noosa Shire ..	400	$33\frac{1}{3}$	
Pioneer Shire ..	3,000	$33\frac{1}{3}$	
Proserpine Shire ..	2,000	$33\frac{1}{3}$	
Redland Shire ..	1,000	$33\frac{1}{3}$	
Woongarra Shire..	467	$33\frac{1}{3}$	

1951–52 Programmes.

Toowoomba City..	5,000	$33\frac{1}{3}$	Public Accommodation for Communities.
South Coast Town	10,000	$33\frac{1}{3}$	
Inglewood Shire ..	500	$33\frac{1}{3}$	
Kolan Shire ..	182	$33\frac{1}{3}$	
Landsborough Shire	1,000	$33\frac{1}{3}$	
Milmerran Shire	290	$33\frac{1}{3}$	
Perry Shire ..	500	$33\frac{1}{3}$	
Townsville City ..	22,000	$33\frac{1}{3}$	
Townsville City ..	4,000	$33\frac{1}{3}$	Establishment of Caravan Park

Loan Works.

The following loans were granted during the year :—

Local Authority.	Loan.	Purpose.
	£	
Rockhampton City	4,386	Nightsoil and refuse vehicles
Townsville City ..	1,273	Motor vehicles for Health Department
Toowoomba City ..	2,500	Plant, vehicles and fly control
Ipswich City ..	3,000	Nightsoil and refuse vehicles
Maryborough City	3,720	" Sani Van " refuse vehicle
Redcliffe Town ..	999	Nightsoil vehicle
Gladstone Town ..	850	Improvements, sanitary depot
Thursday Island Town	1,000	Utility truck, Health Department
Atherton Shire ..	3,000	Septic Tanks, Atherton
Ayr Shire	3,500	" Sani Van " refuse vehicle
Dalrymple Shire ..	140	Nightsoil vehicle
Douglas Shire ..	4,000	New sanitary depot
Inglewood Shire ..	5,000	Septic tank installations
Jondaryan Shire ..	1,000	Plant for sanitary services
Landsborough Shire	1,200	Sanitary pans
Mirani Shire ..	750	Improvements at sanitary depot

Loan Works—*continued.*

Local Authority.	Loan.	Purpose.
	£	
Mount Morgan Shire	1,250	Nightsoil vehicle
Mulgrave Shire ..	4,000	Nightsoil vehicle
Murilla Shire ..	2,000	New sanitary depot, Miles
Moreton Shire ..	3,000	Nightsoil vehicles and plant
Proserpine Shire ..	2,000	New sanitary depot
Woongarra Shire ..	1,300	Nightsoil vehicles
Wangaratta Shire ..	800	New buildings, sanitary depot, Collinsville
1951–52 Programme.		
Cairns City ..	1,200	Refuse motor vehicle
Maryborough City	3,000	New sanitary depot and buildings
South Coast Town	1,500	New sanitary depot, Coolangatta
Johnstone Shire ..	6,000	Sanitary motor vehicles
Jericho Shire ..	500	Water supply sanitary depot
Proserpine Shire ..	200	Drainage works sanitary depot
Sarina Shire ..	2,500	New sanitary depot, Sarina

Inspections.

General :—

Districts.	H.Q. Areas.			Country Areas.				
	In-spections.	Re-in-spections.	Official Calls.	In-spections.	Re-in-spections.	Official Calls.	No. Towns Visited.	No. Reports.
Brisbane	2,117	64	276	2,683	..	254	194	996
Toowoomba	679	58	307	1,249	..	60	79	186
Rockhampton	735	91	166	2,391	..	110	63	112
Mackay	199	3	27	280	..	53	31	48
Townsville	734	157	395	776	..	60	27	253
Cairns	291	4	259	599	..	154	68	131
Thursday Island	627	204	120	..	..	..	..	..
Totals	5,382	581	1,550	7,978	..	691	462	1,726
Grand Total	16,182							

Inspections of Licensed Premises for the Licensing Commission.

Districts.	H.Q. Areas.					Country Areas.				
	Hotels.	Wine Sellers.	Registered Clubs.	Exempt Clubs.	Billiards.	Hotels.	Wine Sellers.	Registered Clubs.	Exempt Clubs.	Billiards.
Brisbane	196	18	1	48	31	214	2	..	..	5
Toowoomba	17	..	..	..	..	98	..	..	..	..
Rockhampton ..	26	..	..	..	..	58	..	1	..	..
Mackay	98	..	..	..	..	64	..	..	2	..
Townsville	8	..	..	..	..	18	..	..	..	..
Cairns	22	..	..	..	..	66	..	..	..	63
Thursday Island ..	8	..	..	..	..	..	..	..	..	..
Totals	375	18	1	48	31	518	2	1	2	68
Grand Total ..	1,064									

TABLE XXVIII.
ANALYSIS OF INSPECTIONS

District H.Q.	Barbers.	Bedding and Upholstery.	Camps (Holiday.)	Camps (Housing).	Drainage.	Fly Infestation.	Lanes and Yards (Private).	Lanes and Yards (Public).	Mosquito Subsidy.	Mosquito Infestation.	Rat Infestation.	Rat Infestation, Wharves and River Walls.	Refuse Tips.	Sanitary Accommodation (Private).	Sanitary Accommodation (Public).	Sanitary Depots.	Sewerage Septic Tanks.	Show Grounds.	Swimming Pools.	Theatres.	Miscellaneous.
Metropolitan Areas.																					
Brisbane	175	80	44	50	146	15	24	113	137	10	30	49	310	41	495	61	11	125	129	49	89
Toowoomba ..	66	..	..	..	36	2	100	19	16	4	17	..	26	93	118	4	3	..	..	..	175
Rockhampton ..	51	..	..	..	41	4	119	18	6	14	17	12	31	161	153	9	16	120	13	3	70
Mackay	..	..	..	..	..	..	..	..	10	11	..	..	2	..	..	..	3	123	..	..	19
Townsville ..	15	9	2	6	75	4	116	130	75	13	15	15	17	79	84	12	11	4	17	5	40
Cairns	56	2	..	..	33	23	3	2	31	12	16	..	11	35	14	3	1	11	..	..	28
Thursday Island ..	..	..	..	13	79	132	103	4	2	7	22	..	18	123	11	18	14	4	..	1	80
Totals ..	363	91	46	69	410	180	465	286	277	71	117	76	415	532	875	107	59	387	159	58	501
Country Areas.																					
From—																					
Brisbane ..	147	1	326	..	92	4	541	..	55	3	3	..	120	370	439	104	12	4	10	4	8
Toowoomba ..	49	..	3	..	47	26	425	3	..	26	28	..	33	362	10	23	3	..	6	..	107
Rockhampton ..	43	..	39	..	81	..	752	..	25	51	32	..	59	871	238	61	4	..	9	14	10
Mackay	..	..	15	..	..	1	..	..	51	3	..	..	8	95	..	12	6	2	3	..	34
Townsville ..	9	..	..	..	97	5	126	2	5	27	1	..	15	227	38	16	2	4	5	3	72
Cairns	43	..	21	..	44	30	..	..	56	13	48	..	35	82	113	36	26	..	..	5	43
Thursday Island	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	291	1	404	..	361	66	1,844	5	192	123	112	..	270	2,007	838	252	53	10	33	26	274

District.	Number Cities, Towns, Townships Inspected.	Miles Travelled.
From—		
Brisbane	194	23,574
Toowoomba	79	4,971
Rockhampton	63	14,402
Mackay	31	6,163
Townsville	27	7,316
Cairns	68	9,040
Totals	462	65,466

The majority of the 462 places inspected were visited at least twice in the period under review, and in addition two or three visits were made to many of them for special investigations.

THE BEDDING AND UPHOLSTERY REGULATIONS.

Flock factories, bedding and upholstery manufacturing premises were kept under supervision during the year, and samples of filling materials obtained for analysis. Action was taken in all cases of failures to pass the standard with the manufacturers and suppliers. The collection of rags from refuse tips has been kept under control and such rags are not permitted to be sold to flock manufacturers.

Results of samples procured are—

TABLE XXIX.

Materials.	Number of Samples.	Chlorine Standard.		Ammonia Standard.		Turbidity Standard.	
		Passed.	Failed.	Passed.	Failed.	Passed.	Failed.
New Filling Materials—							
Australian—							
Flock	21	21	..	19	2	16	5
White Flock	2	2	..	2	..	2	..
Wadding	4	4	..	4	..	1	3
Wool Filling	3	3	..	3	..	2	1
Cotton Filling	5	4	1	*	..	3	2
Cotton linters	3	3	..	*	..	3	..
Feltex	1	1	..	..	1	..	1
Wiping Cloths	4	4	..	4	..	4	..
Factory Clippings	2	2	..	2	..	2	..
Imported—							
Java Kapok	4	4	..	*	..	4	..
Indian Kapok	3	1	2	*	..	..	3
Indian-Ceylonese Fibre	19	11	8	12	7	17	2
Totals	71	60	11	46	10	54	17
Per cent. passed 1950–51	..	84·5%		82·1%		77·4%	
Per cent. passed 1949–50	..	91·8%		90·0%		93·8%	
Per cent. passed 1948–49	..	75·0%		79·7%		79·7%	
Per cent. passed 1947–48	..	73·0%		73·0%		74·9%	
Previously used Materials—							
Fibre	2	1	1	..	2	2	..

*No Standard.

It will be noted that the percentage of failures is much higher in the imported new filling materials when compared with the Australian materials. Action has been taken and the indent agents are notifying their suppliers regarding the standard set down in the State Regulations.

In Townsville, five mattress remakers were found not to comply with the Regulations. Four ceased operations and one complied.

Camping Areas and Seaside Resorts.

Camping areas and accommodation at seaside resorts were policed during the Christmas and New Year holiday seasons. In spite of some criticism, a high standard of sanitation was maintained by the Local Authorities concerned.

Progress in providing modern accommodation and conveniences is slow, and the conservancy system of nightsoil removal still exists in all resorts. Plans for the establishment of septic tank systems are in hand for a number of resorts. The following table gives particulars obtained as a result of the inspection work.

Four hundred and fifty inspections were made.

TABLE XXX.

Area.	Number of Camps.		Number of Camp Sites.		Estimated Number of Campers at 4 per Site.
	Public.	Private.	Public.	Private.	
Coolangatta	11	7	538	50	2,352
Southport	5	7	345	116	1,844
Burleigh Heads	5	4	449	133	2,328
Redcliffe	9	4	654	18	2,688
Redland	6	1	82	1	332
Caboolture	3	..	75	..	300
Landsborough	6	4	212	40	1,008
Maroochy	4	1	575	1	2,304
Noosa	4	1	240	1	964
Burrum	8	..	290	..	1,160
Livingstone	5	..	410	..	1,640
Pioneer	3	..	44	..	176
Mulgrave	5	..	50	..	200
Douglas	2	..	120	..	480
Totals	76	29	4,084	360	17,776

The Barbers' Shops Regulations.

Periodic inspections were carried out in the undermentioned areas. The standard of hygiene is improving, and except for minor breaches the regulation standards are being maintained.

District.	No. of Inspections.	
	H.Q. Area.	Country Areas.
Brisbane	175	147
Toowoomba	66	49
Rockhampton	51	43
Mackay	..	..
Townsville	15	9
Cairns	56	43
Thursday Island	..	..
Totals	363	291
Grand Total	654	

Picture Theatres, &c.

The results of inspections of theatres within the metropolitan area are as follows:—

Sanitary Accommodation.						Ventilation.			Rodent Control.		Vermin Control.								
W.C's.		E.C's.		Urinals.							Treatment.				Periods of Treatment.					
Satisfactory.	Not Satisfactory	Satisfactory.	Not Satisfactory.	Satisfactory.	Not Satisfactory	Air Conditioned.	Mechanical.	Natural.	Satisfactory.	Not Satisfactory.	D.D.T.	Phenol.	Miscellaneous.	Nil.	Daily.	Tri-weekly.	Bi-weekly.	Weekly.	Fortnightly.	Nil.
42	1	4	5	47	5	5	3	44	50	2	45	2	3	2	7	2	4	35	2	2

Water Samples from Local Authorities.

Number of samples from domestic supplies submitted for chemical analysis and bacteriological tests were—chemical, 165; bacteriological, 195.

Swimming Pools.

Swimming pools were kept under supervision, and regular tests carried out by means of "Chlorotex" reagent for chlorine residue.

Tests were also carried out with the same reagent by the persons in charge of the respective pools prior to use in order to maintain the standard of purity. The number of tests is not as great as previous years because the majority of swimming pools were closed as a precautionary measure against the spread of poliomyelitis. Details of tests are appended. Immediate correction was made of those found not up to the standard.

Swimming Pool.	No. of Tests.	No. Satisfactory.
Municipal—		
Booroodabin	8	7
Davies Park	9	8
Ithaca	9	8
Spring Hill	10	9
Toowong	11	11
Ipswich	3	1
State Schools—		
Ascot	2	1
Buranda	2	1
Blind, Deaf and Dumb ..	1	..
Cannon Hill	2	1
Coorparoo	4	3
Greenslopes	2	2
*Greenlanes	2	2
Junction Park	3	2
Milton	2	2
Wilston	2	2
Windsor..	2	2
Wooloowin	2	2
Secondary Schools—		
Grammar, C. of E.	2	1
Gregory Terrace	1	..
Nudgee College	1	..
Y.M.C.A.	1	1
Totals	81	66

* Private pool used by State Schools.

At Townsville a new swimming pool was opened and was tested at regular intervals. Country school pools were closed down during the swimming season.

SECTION OF HOOKWORM CONTROL.

(Microscopist in Charge, S. Thompson.)

General.

The staff responsible for hookworm control consists of a microscopist, sister, and one field inspector at Cairns, and one sister at Innisfail.

During the year the microscopist examined all aboriginals at the Cherbourg Aboriginal Settlement, near Murgon, and at Hope Vale Lutheran Mission near Cooktown. All those positive for hookworm were treated and re-examined.

It was pleasing to see the low incidence of hookworm at Cherbourg Aboriginal Settlement. Of the 841 examined only 40 were found to be lightly infested with hookworm. These hookworm hosts have now been treated to a cure. This low incidence can be attributed to the manner in which the sanitary service and the disposal depot are conducted.

Twenty-five of the white people at Cherbourg Aboriginal Settlement were examined, and one was found to be harbouring hookworms. This patient was cured after one treatment.

The Hope Vale Lutheran Mission has only been established about two years and is situated about 30 miles north of Cooktown. There are 246 aboriginals at the Mission who are controlled by a white staff of five. Of the 246 aboriginals examined, 100 were found to be harbouring hookworms. They have all been treated and of the 87 re-examined 11 were found to be cured. Arrangements have been made for repeat specimens to be sent to Cairns until negative results are obtained.

A survey was carried out at the Aboriginal camp at Cooktown, and of the 43 aboriginals examined 29 were found to be infested with hookworm. They have all been mass treated. In addition, aborigines in the Cairns, Mossman and Daintree areas have been mass treated. Of 228 aborigines examined at Mona Mona Mission, only 43 were found infested with hookworm. These were given treatment.

The survey of the Immigration Holding Centre in Cairns showed one case of hookworm out of 294 persons examined.

Over the year, of 4,352 specimens examined from all sources, 669 were positive for hookworm, and 115 of the hookworm hosts were treated to a cure. One thousand and fifty-eight specimens contained ova of other parasitic worms, namely *Oxyuris vermicularis, Trichuris trichiura, Hymenolepis nana* and *Trichostrongylus orientalis.* The specimens containing ova of the last named came from Mona Mona Mission.

Of the 1,144 specimens examined from school children in all areas, 66 were found positive for hookworm, and 137 for other parasitic worms. All children three years of age and under who were found infested with hookworm were treated in hospital.

Inspections of sanitary conveniences in the various areas were carried out, and action was taken to have any defects found, rectified.

The assistance of doctors, school teachers, and health inspectors is appreciated.

Table XXXI. shows the incidence of hookworm disease in each area, with headings to indicate the nature of the work done.

A feature of the year's work has been the despatch of drugs to several church mission stations in the Gulf area for the mass treatment of aboriginals. There is reason to believe that hookworm infestation at some of these missions is high.

TABLE XXXI.

HOOKWORM CONTROL—SUMMARY OF SURVEYS CARRIED OUT DURING THE YEAR 1950–51.

Name.	Census.	Specimens.					Treatments.			
		Received.	Examined.	Re-examined.	Positive.		Notices.	Delivered.	Posted.	Cured.
					H.W.	Others.				
Cairns Area—										
Schools	545	508	494	14	9	50	43	7	2	9
Cooktown Area—										
Schools—	49	58	48	10	11	4	4	..	11	5
Daintree Area—										
School	52	66	46	20	29	27	27	2	27	9
Innisfail Area—										
Schools	500	492	487	5	14	53	53	14	..	5
Tully Area—										
School	21	20	20	..	3	3	3	..	3	..
Schools Totals ..	1,167	1,144	1,095	49	66	137	130	23	43	28
Cooktown Area—										
Pre-School	37	38	37	1	3	1	1	..	3	1
Intensive Survey—										
Gordonvale Sub-area	142	128	128	..	1	7	7	..	1	..
Babinda Sub-area ..	15	11	11	..	3	..	..	..	..	..
Daintree Sub-area ..	7	6	6	..	..	6	6	..	..	..
Cooktown Sub-area	233	181	181	..	1	6	6	..	..	..
Cairns Area (Immigration Holding Centre)	332	294	294	..	1	46	46	1	..	..
Intensive Survey Total	729	620	620	..	6	65	65	1	1	..
Other Hosts in—										
Cairns Area ..	..	7	..	7	..	..	..	..	..	7
Mossman Area ..	..	3	..	3	1	1	1	1	..	2
Tully Area	..	1	..	1	1	..	..	..	1	..
Innisfail Area ..	..	6	..	6	..	..	..	..	..	6
Cherbourg Settlement	..	1	..	1	..	..	..	..	..	1
Cooktown Area ..	..	1	..	1	..	..	..	..	..	1
Other Hosts Total	..	19	..	19	2	1	1	1	1	17
Miscellaneous—										
Cairns Area ..	206	204	204	..	6	17	17	4	1	..
Mossman Area ..	47	47	47	..	4	5	5	3	1	..
Daintree Area ..	3	3	3	..	..	..	..	..	..	..
Cooktown Area ..	4	4	4	..	..	..	..	..	..	..
Hope Vale Mission	5	5	5	..	1	..	..	1	..	..
Mona Mona Mission	12	12	12	..	..	1	1	..	..	..
Innisfail Area ..	112	112	112	..	4	13	13	2	5	..
Tully Area	1	1	1	..	..	..	..	..	..	..
Ingham Area ..	2	2	2	..	..	..	..	..	..	..
Cherbourg Settlement	36	25	25	..	1	..	..	1	..	..
Miscellaneous Total	428	415	415	..	16	36	36	11	7	..
Aborigines—										
Cairns Area ..	173	304	159	145	175	97	97	169	..	9
Mona Mona Mission	228	233	228	5	46	128	102	42	..	3
Mossman Area ..	89	99	82	17	41	42	42	71	18	4
Daintree Area ..	63	75	57	18	48	43	43	36	41	2
Cooktown Area ..	64	67	61	6	37	24	24	79	2	4
Hope Vale Mission	246	327	240	87	176	73	73	331	21	11
Innisfail Area ..	14	7	7	..	1	4	4	1	..	..
Cherbourg Settlement	1,018	1,004	962	42	52	407	407	49	3	36
Aborigines Total ..	1,895	2,116	1,796	320	576	818	792	778	85	69
All Areas—										
Cairns Area ..	1,398	1,445	1,279	166	192	217	210	181	4	25
Mona Mona Mission	240	245	240	5	46	129	103	42	..	3
Mossman Area ..	136	149	129	20	46	48	48	75	19	6
Daintree Area ..	125	150	112	38	77	76	76	38	68	11
Cooktown Area ..	387	349	331	18	52	35	35	79	16	11
Hope Vale Mission	251	332	245	87	177	73	73	332	21	11
Innisfail Area ..	641	628	617	11	22	70	70	17	5	11
Tully Area	22	22	21	1	4	3	3	..	4	..
Ingham Area ..	2	2	2	..	..	..	..	..	..	..
Cherbourg Settlement	1,054	1,030	987	43	53	407	407	50	3	37
Grand Total ..	4,256	4,352	3,963	389	669	1,058	1,025	814	140	115

Number of treatments administered in hospital—Cairns 144, Mossman 30, Cooktown 28, Cherbourg 4.

SANITATION—MULGRAVE SHIRE.

—	Cairns Area.
Number of places visited	83
Number of sanitary conveniences inspected	85
Number of defective privies	51
Number of places without sanitary convenience	1
Septic tanks	8

MULGRAVE SHIRE.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	15	33	4	1	..
Pits ..	1	18	5	..	..
Septic ..	8	..	..	..	..

CAIRNS CITY COUNCIL.

—	Cairns Area.
Number of places visited	387
Number of sanitary conveniences inspected	431
Number of defective privies	195
Number of places without sanitary convenience	2
Septic tanks	165

CAIRNS CITY COUNCIL.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	70	109	85	2	2
Pits ..	..	..	..	..	..
Septic ..	165	..	..	..	..

COOK SHIRE.

—	Cooktown Area.
Number of places visited	104
Number of sanitary conveniences inspected	114
Number of defective privies	81
Number of places without sanitary convenience	4
Septic tanks	4

COOK SHIRE.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	25	73	2	4	1
Pits ..	4	6	..	..	..
Septic ..	4	..	..	..	..

D Class—Regulation cabinet.
G Class—Below standard, but not showing soil pollution.
E Class—Allowing soil pollution.
F Class—No sanitary convenience.
H Class—Soil pollution in evidence at time of inspection.

DIVISION OF TUBERCULOSIS.

E. W. Abrahams, M.D. (Melb.)., M.R.C.P. (Lond.), Director.

Tuberculosis in the White Population.

During the year 1950-51 slow progress has been made by the Division of Tuberculosis in Queensland. Work has been hampered and extension checked by the difficulties experienced in finding a suitable building in which a Chest Clinic could be established to become the centre for diagnosis and aftercare of tuberculous patients in the Brisbane area, to house the staff necessary for mass radiography and other case finding campaigns, and to provide an administrative centre for the control of Tuberculosis in Queensland.

The recent purchase of Auckland House, George Street, for this purpose has been the outstanding step forward in this year's work and though it will be some time before the necessary re-modelling can be done there is a reasonable prospect of commencing the Chest Clinic work in the near future.

To a limited extent clinical work is being undertaken from the offices of the Health Department but this is hampered by the unsuitability of an office building to cater for large numbers of people and to the lack of X-ray plant and other diagnostic facilities.

Home visiting of contacts and of patients continues and the response of the contacts of known cases to attend voluntarily for skin testing, X-ray and B.C.G. vaccination continues to be most gratifying.

Case Finding.—Children admitted to the wards of the Hospital for Sick Children are skin-tested and X-rayed if positive and an attempt is then made to find the source of infection which has caused them to become Mantoux positive.

This line of approach to the case finding problem is capable of great expansion for whereas in white Australians the incidence of childhood infection is low, the probability is that the infecting case is in the home or amongst the close family circle. By checking up on the family in which the positive reactor child is found, unsuspected cases of tuberculosis can be pin-pointed and brought under medical care.

Treatment.—No outstanding local changes in treatment have occurred during the past year nor has there been any general therapeutic advance in the control of tuberculosis. The previous administrative scheme introduced last year whereby cases are admitted to the Brisbane General Hospital for investigation and diagnosis and are then transferred to the South Brisbane Auxiliary Hospital for treatment, is still in operation. The beds at the South Brisbane Auxiliary Hospital are, however, inadequate to cope with the cases requiring treatment and there is, therefore, a carry-over of up to 40 cases held on the balconies of the Brisbane General Hospital which are not well suited for this purpose. This position will continue until the pre-fabricated wards constituting the first section of the Chermside Sanatorium are erected. This will provide an additional 150 beds which will give considerable relief.

Chest surgery continues to expand, both in treatment of cases of tuberculosis and in other diseases of the chest. There is an increasing tendency to remove portions of diseased lungs in cases of tuberculosis rather than to do thoracoplasties and the results of this type of treatment are proving very encouraging.

Facilities for treatment at South Brisbane Auxiliary Hospital have been improved over the past year by the installation of a new X-ray plant of sufficient power to take good quality X-ray films of the chest, thus overcoming the necessity for transferring patients by ambulance to and from the Brisbane General Hospital for X-ray examination.

Dr. Karl N. Uhd who has been Medical Superintendent at the South Brisbane Auxiliary Hospital during this period of re-organisation has resigned and has been followed by Dr. Alan Ashworth, formerly City Health Officer. Dr. Uhd's work at South Brisbane Auxiliary Hospital has been of very high order and much appreciated by staff and patients.

Westwood Sanatorium is still the only institution catering specially for cases of tuberculosis in Central Queensland. It works in conjunction with the Chest Clinic of the Rockhampton General Hospital where also some chest surgery is undertaken. Dr. Silberstern, Medical Superintendent of Westwood, is also in charge of the Rockhampton General Hospital Chest Clinic.

Westwood is handicapped in its work by lack of staff and staff accommodation which limits its capacity to 45 cases, its present total. With the addition of further staff accommodation at present planned, 100 cases can be catered for provided the staff is forthcoming.

Treatment of cases in other Queensland Hospitals is being slowly co-ordinated with that of metropolitan cases. X-ray films and clinical details may be sent from country hospitals or private practitioners to the Division for information and advice on the management of cases and, if surgery or other treatment unable to be done locally is necessary, arrangements can be made to remove the patients to Westwood or to Brisbane for treatment.

In the Far North, the problem of tuberculosis in the native peoples is being attacked. Waiben

Hospital, a 45-bed institution on Thursday Island catering for cases of tuberculosis in aborigines and Torres Strait Islanders, has been opened. This institution is largely staffed by Torres Strait Island girls as domestics and nursing attendants. Its development and operation will be watched with interest, not only because of the importance of the work being done, but because of the opportunity it gives for these natives to show their capabilities in this type of work.

One of the chief problems in this area is the extreme difficulty of following up cases and suspects in the native population. For this reason and because of the great distances involved out-patient accommodation is necessary on Thursday Island. Buildings for this purpose are being erected on Thursday Island where natives under the control of the Director of Native Affairs, particularly those from the Gulf and Cape regions, can be housed while under investigation or following hospital care while awaiting transport home.

Tuberculosis Allowance.—The Tuberculosis Allowance Scheme introduced by the Commonwealth Government on 13th July, 1950, is now approaching the end of its first year's operation in its new form. During this year the cost in Queensland will be upwards of £130,000. At the present time 556 persons are drawing allowances. There are still misunderstandings in the operation of the scheme both by the public and the medical profession which increase the difficulty of its administration. These are—

1. The allowance is not a permanent pension as, for instance, the invalid or repatriation pension, and is stopped when the active treatment of a case is completed. If at this time the patient is permanently incapacitated an invalid pension only is payable.
2. The allowance is paid to enable the patient to stop work and have treatment and, though provision is made for patients resuming work while still drawing an allowance, it is not intended as a form of permanent subsidy to chronic cases of tuberculosis.

Case Register.—The establishment of a case register is regarded as one of the most urgent measures in public health control of cases. Since its inception in January, 1950, 1,403 cases have been registered and data recorded of considerable statistical value. Unfortunately in many cases the data is incomplete. Nine hundred and fourteen cases have been added in the current year.

Analysis of this register will point to those sections of the community where the majority of cases of tuberculosis are being found and enable appropriate steps—such as mass radiography, tuberculin or community surveys—to be taken to find and treat cases.

Rehabilitation.—Replacement of cured cases of tuberculosis in occupations continues with the help of the Rehabilitation Section of the Department of Social Services and the Commonwealth Employment Service. This Department, unfortunately, cannot help with the most difficult group of cases, those whose sputum remains positive despite treatment. It is hoped that ultimately some form of sheltered workshop can be established where these cases can work under suitable conditions. The number of cases requiring rehabilitation at the present time is small as a majority of patients, when fit, are easily re-absorbed into industry.

Case Finding.—The installation at the Brisbane General Hospital of a photofluorography plant for the routine examination of all Hospital patients for tuberculosis is almost complete and this work can commence at an early date. A plant suitable for similar work has been installed at Toowoomba Hospital so that a very valuable comparison between Hospital patients in a country and a metropolitan area can be obtained.

Control of tuberculosis disease is a long-term policy and the rate of progress is at times disappointingly slow.

At present the difficulties of obtaining staff, materials, and buildings are hampering work, like most other projects, but progress is still being made which it is hoped will be accelerated in the forthcoming year.

Tuberculosis in Queensland Aborigines.

During 1950-51 Dr. F. M. Macken has undertaken an investigation into the incidence of tuberculosis infection amongst the aboriginal natives of the Queensland mainland. This work is of great importance, in that it gives an accurate picture of the degree to which the natives are exposed to infection, and will enable a comparison to be made, in later years, of the changes which have occurred.

Three objectives were attempted—

(1) To determine by the Mantoux (intradermal tuberculin) test the number of individuals who have been infected by the germ of tuberculosis. (These are not necessarily suffering from the disease, and need not be in any way infectious).

(2) To protect uninfected individuals by vaccinating them with B.C.G. vaccine which increases their resistance to the disease.

(3) To discover and treat those individuals suffering from active tuberculosis and to try to prevent them spreading their disease.

(1) This objective was completely achieved, and we now have a complete picture of the infection rates of the various aboriginal settlements and missions throughout the mainland of the State.

Figure 2 shows the infection rates in the following three groups of people.

(*a*) Displaced persons (van Leent)

(*b*) Queensland Aborigine (Macken)

(*c*) White Australians (Kerr).

The curves for Displaced Persons' children and aboriginal children are very similar and they rise much more steeply than those for white Australian children.

FIGURE 2

Showing Age Distribution of Positive Reactors to Mantoux Test in Queensland Aborigines, 1950-51, compared with that in Children of Displaced Persons (Van Leent, 1951), and White Children of Australians (Kerr, 1950).

Another interesting comparison is with the children of Jamaica in the West Indies, an area of somewhat similar climate, with a population of African Negro origin.

These figures are—

Age.	Percentage Positive.	
	Jamaican Negroes.	Queensland Natives.
5–9 years	31	34
10–14 years	46	50

These graphs and figures show that, in Displaced Persons, in Jamaican negroes, and in Queensland natives, infection occurs younger, and is more widespread than in Australian whites, which means that either there are more infectious cases of tuberculosis in these groups or that the conditions such as housing, nutrition, way of life, &c., facilitate the spread of the disease. In practice both factors usually operate together.

(2) B.C.G. vaccination of uninfected natives was undertaken wherever possible, but owing to difficulties with supply of the vaccine, some settlements could not be covered.

The difficulty is that B.C.G. is a living vaccine with a short life and must be used within a week of its release from the Commonwealth Serum Laboratories in Melbourne.

With the co-operation of the Airline companies, of the Flying Doctor Service, and the Cairns Aerial Ambulance, some 3,000 Mantoux negative individuals were vaccinated.

(3) *Discovery of infected individuals.*—This was the aspect of the survey least well covered, owing to the distances involved, the difficulties of travel, and the lack of pathological facilities for investigation of suspects.

A portable X-ray machine and a petrol-driven electricity generator were made available for this work by the Commonwealth X-ray and Radium Laboratory. This unit, designed for war-time work, breaks up into packages, the largest of which weighs 400 lbs. and can be transported (with some difficulty) by air. Our thanks are again due to the Flying Doctor Service and the Cairns Aerial Ambulance who, by moving plant and staff from station to station, made the survey possible in the Gulf area.

Difficulties were encountered in processing film, and working conditions were frequently extremely unpleasant, but some 3,000 films were taken. All natives with signs of chest disease or whose Mantoux tests were positive were X-rayed.

Two hundred and eighty-seven persons were discovered with some abnormality in their chest films and were referred for further investigation and treatment to the nearest public hospital, while arrangements were made for others to have X-ray films taken some time later.

Unfortunately, owing to mechanical trouble, completion of the survey in the Cape York region was not possible before the wet season commenced.

Analysis of findings.—The high incidence of positive Mantoux reactors and their distribution in age groups show the presence of an unchecked epidemic of tuberculous infection.

It is known from the results of surveys conducted in connection with migratory movements that the incidence of tuberculosis in Displaced Persons in Europe is very high; and also that they have for years been living a communal life in camp in Europe, with often inadequate diet—in fact under conditions favourable to the spread of infectious diseases, so it is not surprising to find such a high incidence of juvenile infection amongst them.

In Jamaica, also, poverty, poor housing and overcrowding go hand in hand with a very high incidence of tuberculosis amongst the negro population.

Action required.—The most urgent step, and that most likely to produce quick results, is the wide-spread use of B.C.G. vaccine, to try to prevent the almost universal childhood infection.

The beneficial effects of B.C.G. vaccination amongst primitive people has been shown by Aronsen working amongst the Red Indians in Alaska, and in the South-west U.S.A. Aronsen divided the uninfected members of a number of Indian tribes into two groups—each equally exposed to infection—one vaccinated with B.C.G. and the other not vaccinated. There were 1,565 in the first group and 1,460 in the second group, and they have been observed for a period of 9 to 11 years. At the end of this time 9 persons in the unvaccinated group had died from tuberculosis, but only one in the vaccinated group, who died two months after the vaccination, before any beneficial effect could have occurred.

For this reason, a position has been created on Thursday Island for a Medical Officer whose duties will include the care of cases under treatment, and who will also attempt to prevent the spread of infection by the use of B.C.G. It is hoped that a suitable man will soon be found to undertake this urgent and interesting work.

The longer-term solution of the problem is not only medical but is that of the whole future of our native races. It is interesting to reflect that, as regards tuberculous infection, the position of our native is similar to that of our ancestors of the last century: and that the reduction in the incidence which has occurred has been due, not so much to specific public health measures, but to social changes,—improved housing, better education, smaller families and a rise in the real value of wages. If a similar change occurs in native social affairs in the next 50 years, a similar drop in the rate of tuberculous infection may be anticipated.

Thanks are due to the Commonwealth Serum Laboratories, Melbourne, for the prompt despatch of B.C.G. vaccine to the many isolated centres visited during this survey.

DIVISION OF INDUSTRIAL MEDICINE.

Douglas Gordon, M.B., B.S., (Q'ld.), Director of Industrial Medicine.
C. R. Lulham, M.B., B.S., (Q'ld.), Medical Officer.
J. M. Kennedy, Inspector in Charge, Weil's Disease Control.

During the past year the following matters have been dealt with by this Division:—

(1) Reports submitted on industrial premises, industrial health hazards, or to a less extent on administrative matters 78
(2) Clinical reports to medical practitioners, the Insurance Commissioner, &c. 149
(3) Clinical examinations—other than regular routine ones 236

TABLE XXXII.

Cases seen for some Special Reason other than for Routine or Repeat Examinations.

—	Total.	Positive.	Negative.	Remarks.
Patients Exposed to Lead—				
Occupation—				
Battery worker	2	..	2	Two of the three battery reclaimers were affected in a battery-plate smelter which had started operations quite suddenly without adequate precautions. Conditions have now been greatly improved. The third man worked at pulling machinery to pieces and re-building it in a works handling old battery plate
Panel beater	3	..	3	
Plumber	3	..	3	
Battery reclaimer	4	3	1	
Leadlight worker	1	..	1	
Boat builder	1	..	1	
Cable joiner	1	..	1	
Seaman—scraping paint	1	..	1	
Rigger—Mount Isa	1	..	1	
Clerk—Mount Isa	1	..	1	
Clerk	2	..	2	
Phone mechanic	1	..	1	
Fitter—petrol depot	1	..	1	
Truck driver—petrol depot	1	..	1	
Painters—				
House painter	22	1	21	There was never any very adequate explanation as to where or why this positive painter became affected. He was for the most part engaged in interior painting
Machinery painter	1	..	1	
Spray painter	1	..	1	
Sign writer	1	..	1	
Printing—				
Stereo-typist	2	..	2	
Mono-typist	1	..	1	
Letter-press machinist	2	..	2	
Compositor	1	..	1	
Patients Exposed to Dust—				
Coal Miners	37	1	36*	Exposure of positive case overseas
Fireman—sawmill—Sander dust	1	..	1	Tuberculous—active
Quarry-man	1	..	1	
Coal crushing—powerhouse	1	..	1	
Monumental mason	1	..	1	
Metal miner	1	..	1	
Sawdust—Cabinet maker	1	1	..	Asthmatic—not pneumoconiosis
Miscellaneous—				
Carbon Monoxide—Gasworks	1	..	1	Neurosis
Noise—Locomotive shop	1	..	1	Patient had Meniere's Disease. Audiogram did not suggest industrial deafness
Brucellosis—Abattoir worker	1	1	..	Complications prolonged; include Mastitis
Benzol paint removers	3	..	3	
Abattoir worker	1	..	1	Infective Mononucleosis
Arsenic—Weed sprayer	2	1	1	Among the sheep-skin sprayers there were two men clinically affected by arsenic. Quite a few others showed abnormally high arsenic excretion without any symptoms or signs of disease
Arsenic—making cattle dip	2	1	1	
Arsenic—Ingestion	2	1	1	
Arsenic—Sheep-skin sprayers	74	2	72	
Skin Lesions—				
Lithographer	1	..	1	Lesion not occupational
Paint handling	1	..	1	Lesion not occupational
Leptospirosis Pomona—				
Dairy and pig-farm workers	40	38	2	

See Occupational Fevers—Southern Queensland, Page 48.

* Thirty-four (34) of these coal miners came from the one pit which was considered dusty. All were negative but this pit has not been in operation very long.

From this table it would seem that the main chemical hazard is now found in arsenic spraying. The routine monthly examinations in the more dangerous lead trades appear to be reasonably effective. Arsenic spraying, however, is difficult to render free from danger. Further investigation will be made in the future into the possibilities of less harmless substitutes, particularly in the sheep-skin trade.

Synopsis of Other Work.

As in past years the staff of the Laboratory of Microbiology and Pathology have done much work for this section, apart from carrying out the monthly blood examinations of workers in the more dangerous lead trades. A debt to officers of the Government Chemical Laboratory is acknowledged for work done—dust counts, chemical analyses, &c. Details of this work will appear in the respective reports of these Laboratories.

An enumeration of some of the other tasks undertaken by the Director will give some idea of the diversity and interest of the year's work.

Committees, &c., Attended.

Queensland Health Education Council.

National Association of Testing Authorities (Queensland State Committee).

Standards Association of Australia (Queensland Advisory Committee—certain meetings).

Climatological Committee (Queensland).

National Safety Council

Committee of Industrial Hygiene—a subcommittee of the National Health and Medical Research Council.

Papers.

"Pneumoconiosis in Queensland Foundries." Medical Journal of Australia, Vol. 2, 1950, p. 217.

"Health and Work in the Tropics"—read at the Congress of the Australian and New Zealand Association for the Advancement of Science, held in Brisbane, June, 1951.

Lectures.

To medical students, engineering students, and factory inspectors.

Ten "field days" with medical students.

Some Other Matters of Interest Which Received Attention.

Safety in air lock work, Brisbane River.

Carbon bisulphide explosion, Bajool.

Preserving of timber with penta-chlorphenates and with arsenicals.

Handling of "dead" wool.

"Pomona" fever in the field.

Chlorphenates as weedicides in pineapple crops.

Fumes from galvanising on a large scale.

Zinc dust in "sherardising" metal.

Concentrations of hydrogen sulphide in a coal mine.

Di-nitro-ortho-cresol as a weedicide in onion crops.

The spraying of "parathions" in orchard work.

Tetanus hazards for meat workers.

Dust in open-cut coal-mines.

Resuscitation apparatus for Mines Rescue squads.

Annealing of aluminium with sodium nitrate.

Dust hazards from crushing coal underground in power-houses.

Benzol hazards in railway carriage painting.

Benzol hazards in motor vehicle painting.

Environmental comfort problems in a large telegraph room and in two theatrettes.

X-ray machines in shoe stores.

Progress.

1. Thanks to excellent co-operation from the Chief Inspector of Factories and Shops and his staff, the "Lead Rules—Factories and Shops Act" are being applied in a reasonably effective and common-sense manner.

2. Under the chairmanship of the Chief Inspector of Factories and Shops discussions were held on two occasions with representatives of the foundry industry. The result will be a set of rules that will be reasonable yet effective in preventing silicosis in the foundry industry.

3. The protection of divers and the x-raying of work people in dusty trades are two subjects now being considered by higher authority.

4. The appointment taken up in general medicine at the Brisbane General Hospital by the doctor is a big help in the clinical work connected with this Division. It is impossible completely to separate industrial from general medicine in actual practice hence it is prudent and advisable to keep up to date with the latter.

Northern Fevers.

During the year a close check has been kept on "fevers" occurring in the Northern coastal areas—indeed during the period this has been the major clerical work of the division. Altogether 311 cases were finalised and 29 cases have been carried over into the next period. An individual card is raised for each patient, practically all of whom were sick enough to be hospitalised. The names are obtained from notifications, from "bloods" sent into this Department's Laboratory and from reports from Weil's Disease and Health Inspectors. The appropriate Inspector has been asked to obtain an occupational history from each patient and a clinical history from the hospital. The patient's doctor is asked to obtain a blood sample if one has not already been furnished and in some cases where the first one has proved negative to forward a second sample. In a few cases even a third sample has been sent in. Owing to distance from Brisbane, distance within the areas and movements of patients, months have elapsed in some cases before all this information has been obtained. When it is all on the card an attempt is then made to arrive at a final diagnosis. In some few patients the evidence is so equivocal that the result is at best a guess. The final results and sometimes interim reports are sent to the State Government Insurance Commissioner. The routine work

involved this year has been extremely heavy and tribute is paid to the co-operation and initiative of all concerned—local medical practitioners, inspectors in the field and laboratory and clerical staff.

The tables which appear hereunder represent cases *whose diagnosis has been finalised* between 1st July, 1950, and 30th June, 1951. This has proved to be the only feasible administrative method of tabulating the incidence. Looked at from any angle the results leave very little for complacency. The fact that a heavy incidence was predicted in May, 1950, after noting the exceptionally heavy rainfalls for March and April, only adds to the gloom. Altogether there were ninety-nine cases of Weil's Disease as against approximately half-a-dozen in most years. Apart from direct loss and suffering the labour force is disturbed, the industry is upset, and some cutters become scared, leave the North and cut for the rest of the season in the South.

Weil's Disease (99 cases).

Just why an "epidemic" of Weil's Disease occurs is difficult to say. Low-lying canefields that do not readily dry out are one necessity, unusually heavy rain just before or during the crushing is another; whether there is another connected with the density of the rat population and the amount of leptospirosis among this population is not known. There must be some third unknown entity which has not yet been clearly demonstrated. The Mourilyan area escapes, for instance, because of its well-drained and porous soil—for the reverse reason the Goondi flats are always dangerous. In round terms the "wet" area lies from Tully (average annual rainfall 178 inches) through Innisfail (143 inches) to Babinda (162 inches). Gordonvale, Cairns (average annual rainfall 88 inches), Mossman (80 inches) in the north and Ingham (78 inches) in the south are comparatively dry. Yet Ingham has had severe outbreaks of the disease, Tully has never been badly affected and Babinda had escaped any serious incidence until this year. From appearances it would be expected that many of the fields in the Tully area would get as wet as many in the South Johnstone area. The latter produces its quota of trouble whereas this year Tully had only five cases and three at least of these had no connection with the sugar industry.

Turning specifically to this season's outbreaks the characteristics of the rainfalls were excessively heavy recordings in all areas in March and April and again in November and December. For some reason Ingham and Tully escaped trouble but towards the end of June there were explosive outbreaks in Goondi and Babinda from low-lying farms. In July the regulations covering cane burning were altered in such a way that an *efficient* burn rather than just a "burn" had to be obtained before harvesting was allowed. Policing of these regulations, particularly in the low-lying areas of Goondi, was made more rigorous. After this—but whether as a result of this is not known—there was a marked improvement particularly in the Goondi area. Rat infestation in the fields yet uncut is usually heavy towards the end of the season so that the heavy falls in November and December might reasonably have been expected to produce a further bad outbreak. This did not eventuate. Once again it is not known whether or not this was due to the regulations and their efficient enforcement. It would be at least foolhardy with this evidence to come to the conclusion, as some have, that the control exercised by the present Inspectorial staff is unnecessary. Fortunately there was only one death this season. This is probably a matter of virulence of strains about which we know practically nothing. Penicillin therapy also may have some bearing on this matter.

It is quite obvious that there are many gaps in our knowledge about this disease. Complete prevention, for instance, probably would best be accomplished by a vaccine. Unfortunately to date human vaccinations to prevent the leptospiroses have been rather unhappy and certainly could not be contemplated at the moment. The Queensland Institute of Medical Research has established a field laboratory at Innisfail and will co-operate with the Laboratory of Microbiology and Pathology in the study of leptospirosis.

Pyrexia of Unknown Origin (147 cases).

Patients put in this class are those that have run fevers the cause of which has not been determined. This is obviously a problem for research. It must be remembered, however, that the problem of the undiagnosed fever occurs in South Queensland also, if records of blood submitted to this Laboratory are any indication. There is some slight evidence in these tables that there is a co-relation between the incidence of diagnosed cases of Weil's Disease and undiagnosed fevers. This may, however, be quite coincidental since there are also several extraneous factors operating. For instance, if there is a Weil's Disease outbreak patients become "fever conscious" and go to their doctors with temperatures which ordinarily would be treated at home without medical attention.

Scrub Typhus (49 cases).

The incidence of scrub typhus this year was much the same as that which occurred last year. Human nature being what it is, it is doubted if much can be done to prevent this. One ingenious theory put up this year was that canecutters did not get their fevers in the canefields but while shooting in the scrubs and swimming in the creeks, &c. If this were true it would mean that the men from Goondi, Babinda and South Johnstone did these things and the men from Mourilyan and Tully did not. This is obviously not so.

Details regarding cases of fever from various Northern areas are listed below.

INNISFAIL.

Total Cases 95.

Month of Onset.	Weil's Disease.			P.U.O.				Scrub Typhus.	Rainfall.		Average Rainfall.
	Goondi.	Mourilyan.	South Johnstone.	Goondi.	Mourilyan.	South Johnstone.	Not Cane Workers.		1949–50.	1950–51.	
									Pts.	Pts.	Pts.
1950—											
May ..	..	..	..	..	..	..	2	..	..	568	1,242
June ..	20 2*	..	3	2	..	8	1	2	..	533	723
July.. ..	2	..	4	1	..	2	1	1 1*	..	1,844	475
August ..	8 1*	..	..	5	1	2	1	..	..	405	491
September ..	..	..	..	..	..	..	1	..	..	741	352
October ..	1	..	..	2	..	1	1	..	..	227	322
November ..	..	..	..	1	..	..	..	..	..	2,385	637
December ..	..	..	4	2	..	2	..	..	..	4,134	1,170
1951—											
January ..	..	..	..	2	..	..	..	2	1,978	1,789	2,004
February ..	..	..	2	..	1	1	..	1	1,960	1,496	2,265
March ..	..	..	..	..	..	..	1	..	3,537	1,401	2,673
April ..	..	..	..	..	..	..	..	..	4,585	356	1,995
May ..	..	..	..	..	..	..	..	..	..	659	1,242
June ..	..	..	..	..	..	..	..	..	..	..	723
Total ..	34	..	13	15	2	16	8	7	..	..	..

Cases from the Innisfail area the diagnoses of which have not yet been finalised—One.
* Clinically and occupationally strongly positive, laboratory findings negative.

BABINDA.

Total Cases 80.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Rainfall.		Average Rainfall.
				1949–50.	1950–51.	
				Pts.	Pts.	Pts.
1950—						
May	..	1	..	..	536	1,318
June	18	2	1	..	554	824
July	5 1*	4	..	..	1,328	535
August	4	3	..	..	274	454
September	1	..	..	..	882	479
October	3	..	..	..	351	502
November	..	2	..	..	1,654	634
December	5	11	1 1*	..	4,079	1,365
1951—						
January	2	4	3	2,036	2,462	2,372
February	1	..	3	1,689	1,783	2,674
March	..	1	..	3,832	1,112	3,043
April	..	1	2	4,272	144	2,055
May	..	..	..	536	551	1,318
June	..	..	..	..	..	824
Total	40	29	11	..	..	..

Cases from the Babinda area the diagnoses of which have not yet been finalised—Nil.
* Clinically and occupationally strongly positive, laboratory findings negative.

TULLY.

Total Cases 21.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Rainfall.	Average Rainfall.
				Pts.	Pts.
1950—					
March	..	1	..	6,873	3,276
April	..	..	..	5,325	1,748
May	..	..	..	571	1,518
June	2	1	..	635	888
July	..	4	..	2,109	671
August	2	2	..	424	596
September	1	..	1	904	478
October	..	2	1*	592	554
November	..	..	1	2,767	774
December	..	..	..	4,996	1,060
1951—					
January	..	..	..	2,271	2,828
February	..	1	..	2,103	3,415
March	..	2	..	1,758	3,276
April	..	..	..	158	1,748
May	..	..	..	1,270	1,518
June	..	..	..	..	888
Total	5	13	3		

Cases from the Tully area the diagnoses of which have not yet been finalised—Nil.
* Clinically and occupationally strongly positive, laboratory findings negative.

GORDONVALE.

Total Cases 28.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.
1950—			
May	..	1	..
June	..	..	..
July	..	3	1
August	..	..	..
September	..	..	..
October	1	..	1*
November	1	..	..
December	3	3	1
1951—			
January	..	4	1
February	..	3	1
March	..	2	..
April	..	..	..
May	..	..	1 1*
June	..	..	..
Total	5	16	7

Cases from the Gordonvale area the diagnoses of which have not yet been finalised—One.
* Clinically and occupationally strongly positive, laboratory findings negative.

INGHAM.

Total Cases 10.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Rainfall.	Average Rainfall.
				Pts.	Pts.
1950—					
March	..	1	..	4,587	1,608
April	..	..	..	1,522	748
May	..	..	..	448	363
June	1	4	..	253	239
July	..	..	1	544	163
August	..	..	..	64	144
September	..	..	..	190	159
October	..	..	..	223	186
November	..	..	1*	1,915	380
December	..	..	..	1,051	691
1951—					
January	..	..	..	1,798	1,556
February	..	..	1	1,349	1,621
March	..	..	..	635	1,608
April	..	..	1*	67	748
May	..	..	..	452	363
Total	1	5	4		

Cases from the Ingham area the diagnoses of which have not yet been finalised—One.
* Clinically and occupationally strongly positive, laboratory findings negative.

CAIRNS.

Total Cases 13.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Murine Typhus.	Rainfall.		Average Rainfall.
					1949–50.	1950–51.	
					Pts.	Pts.	Pts.
1950—							
July	..	1	2	..	..	213	157
August	..	1	..	..	..	31	171
September	..	..	..	..	..	181	169
October	..	1	..	..	..	178	210
November	..	1	..	..	..	1,390	388
December	..	1	..	..	..	2,051	867
1951—							
January	..	..	..	2	2,233	1,835	1,656
February	..	..	2 1*	..	1,138	629	1,575
March	..	1	..	..	2,633	764	1,806
April	..	..	..	..	2,991	169	1,127
May	..	..	..	..	228	175	453
June	..	..	..	..	294	..	286
Total	..	6	5	2			

Cases from the Cairns area the diagnoses of which have not yet been finalised—Seven.
* Clinically and occupationally strongly positive, laboratory findings negative.

ATHERTON.

Total Cases 30.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Tick or Murine Typhus.	Leptospirosis Pomona.
1950—					
June	..	2	..	..	..
July	..	1	..	..	..
August	..	5	1	1	..
September	..	1	..	..	..
October	..	..	..	..	..
November	..	1	..	1	..
December	..	1	..	..	..
1951—					
January	..	2	3	2	..
February	..	2	..	..	2
March	..	..	1	..	..
April	..	2	..	1	..
May	..	1	..	..	..
Total	..	18	5	5	2

Cases form the Atherton area the diagnoses of which have not yet been finalised—Eight.

MACKAY.

Total Cases 10.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Leptospirosis Pomona.	Q Fever.
1950—					
July	..	..	1	..	..
August	..	..	..	..	..
September	..	..	..	..	..
October	..	..	..	..	..
November	..	1	..	..	..
December	..	..	..	..	..
1951—					
January	..	..	..	2	..
February	..	3	..	..	..
March	..	1	..	1	..
April	..	..	..	..	1
May	..	..	..	..	..
June	..	..	..	..	..
Total	..	5	1	3	1

Cases from the Mackay area the diagnoses of which have not yet been finalised—Five.

Mossman.

Total Cases 20.

Month of Onset.	Weil's Disease.	P.U.O.	Scrub Typhus.	Tick or Murine Typhus.	Rainfall.	Average Rainfall.
					Pts.	Pts.
1949—						
December	..	1	..	..	1,404	906
1950—						
February	..	1	..	..	2,212	1,549
March	..	..	..	..	1,091	1,686
April	..	..	..	..	1,917	914
May	..	3	..	..	157	282
June	1	1	1 1*	..	244	207
July	..	2	..	..	239	96
August	..	..	..	..	6	94
September	..	..	1	..	64	129
October	..	..	..	..	347	197
November	..	..	..	..	1,890	395
December	..	1	..	..	2,384	906
1951—						
January	..	1	..	..	1,595	1,522
February	..	..	2	1	542	1,549
March	..	..	1	..	717	1,686
April	..	2	..	..	240	914
Total	1	12	6	1		

Cases from Mossman the diagnoses of which have not yet been finalised—Two.
* Clinically and occupationally strongly positive, laboratory findings negative.

Mareeba.

Cases occurring during 1950-51—Nil. Cases from the Mareeba area the diagnoses of which have not yet been finalised—One.

Thursday Island.

Month of Onset—January, 1951. Tick or Murine Typhus—One.

Cases from Thursday Island the diagnoses of which have not yet been finalised—Nil.

Townsville.

Month of Onset—May, 1951. Tick or Murine Typhus—One.

Cases from the Townsville area the diagnoses of which have not yet been finalised—Three.

Proserpine.

Month of Onset—November, 1950. P.U.O.—One.

Month of Onset—December, 1950—P.U.O.—One.

Cases from the Proserpine area the diagnoses of which have not yet been finalised—Nil.

Occupational Fevers—Southern Queensland.

In Southern Queensland the winter and spring of 1950 were abnormally wet and this was followed by the normal "wet" season in the early months of 1951. This may perhaps have had something to do with an unusually high incidence of fevers which in most cases are connected with cattle and pigs and have in this instance occurred mainly in dairy farmers, pig farmers and abattoir workers.

Leptospirosis Pomona.

Month.	Brisbane Area (including Ipswich).	Nambour to Gympie.	Elsewhere.	
1950—				
July	1	..	..	
October	..	1	..	
December ..	..	2	Chinchilla	1
			Gayndah	1
1951—				
January	1	11	Chinchilla	1
February	1	21	Nanango	1
March	4	..	Chinchilla	1
April	4	2	Gladstone	1
May	3	2	Gladstone	1
June	..	3	Chinchilla	1
	14	42		8

The bulk of the cases occurred in quite an explosive outbreak in the wet and closely settled dairying districts centred around Pomona, Cooran, Cooroy and Eumundi. In a small locality (Pinbarren) almost every farm along a little creek had at least one case. However, the drier country around Gympie itself did not escape a certain sporadic incidence. With the help of the Stock Inspector at Gympie (Mr. Kenny), most of these patients were followed up on their farms and checked for residual renal damage. None was found. At the same time questions were asked in regards to sickness among dairy stock. In most instances a history of recent disease among calves, cows or pigs was obtained. Blood had been obtained from stock on many of these farms by officers of the Department of Agriculture and Stock. These "bloods" had given positive agglutinations for Leptospirosis Pomona. The impression was gained that

ravages of disease and economic loss had been quite heavy in the dairying industry in this area this year.

For some reason blood submitted for investigation for Leptospirosis Pomona was in nearly all cases positive, whereas bloods sent from North Queensland "? Weil's Disease" are in many cases negative. There is no known reason why this should be so.

Patients from the Brisbane area included several "farming" cases from Ipswich. The rest were mainly abattoir workers. In taking histories on farms it was noted that often when a cow became sick with subsequent loss of milk her owner sold her as a "tinner" to a dealer. It is tempting to wonder whether the later occurrence among meat workers in Brisbane was due to these animals finding their way to the killing floor a month or two after they had left the farms. In going around the farms some further blood samples were taken. One of these was from a man who had had a typical sickness in September but had not gone to a doctor. His blood, taken approximately seven months later, was diagnostic.

Though clinically, Pomona is considered to be one of the less serious Leptospiroses many of the patients, particularly those over thirty years of age, are very sick. It was interesting the number of hardy country men who spontaneously said that they had thought they were going to die and hadn't cared much if they did. In the older person the convalescence is quite lengthy and trying. No evidence, however, was obtained that any serious organic sequelae eventually resulted.

Leptospirosis Mitis.

Month.	Nambour-Gympie.	Gladstone.
1951—		
January	1	..
March	1	..
May	..	1

It would seem that together with L. pomona there is also to a lesser extent a "mitis" strain in the near North Coast area.

Brucellosis.

Month.	State.
1950—	
December	1
1951—	
January	2
March	1
April	1
May	1
June	1
Total	7

These cases are mainly among abattoir workers. One case, a meat carter, who became infected some months ago, now has all the signs and symptoms usually assigned to chronic brucellosis and clinically is not making any worth-while progress. Since his discharge from hospital he has developed for some unknown reason a unilateral mastitis.

Rickettsia Burneti (Q Fever).

Month.	Brisbane Area.	Nambour-Gympie.	Gladstone.
1950—			
August	1	..	..
September	1	..	..
December	4	1	..
1951—			
March	1	..	..
April	6	..	..
May	1	..	1
June	4	..	..
	18	1	1

These patients are practically all concerned with the slaughter of cattle. This year the incidence has been higher than it has been for some years.

Conclusion.

A good deal of this report has been devoted to "fevers"—not the usual stock-in-trade of an industrial medical division. However, most of these cases are "occupational" in origin and when the numbers are considered (94 from Southern Queensland and 311 from Northern Queensland) it will be realised that they are of more practical importance to industry in this State than consideration of the somewhat rare and more orthodox chemical toxins of industry.

DIVISION OF MATERNAL AND CHILD WELFARE.

Director: H. C. Murphy, M.B., B.S.
Deputy Director: P. M. Jackson, M.B., B.S.
Part-time Pre-school Child Health Officer: T. Henry R. Mathewson, M.B., Ch.B.
Superintendent: D. Bardsley, A.T.N.A., F.C.N.A.
Deputy Superintendent: A. Jenkinson, A.T.N.A.

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Introduction.

It appears appropriate for the occurrence of Australia's Jubilee to be an occasion for stocktaking among movements and organisations which have become integrated into the national life of this country.

In 1918 in Queensland, routine ante-natal and post-natal care of the mother was practically non-existent and the maternal death rate was 5.31. There were no infant welfare centres and it was a popular belief that mothers, however young and inexperienced or with whatever degree of intelligence, needed no instruction in the care and feeding of their infants—all knowledge of such matters presumably appearing in the mothers' consciousness simultaneously with the birth of the baby. Doctors and nurses received no training in the feeding and management of the normal infant and were therefore totally unqualified in any case to advise the mothers. The obvious corollary of this state of affairs was the infantile mortality rate which at that time was 64 per thousand live births. The contrast with the year ended June, 1951, shows the saving of maternal and infant life which has been achieved since the establishment of the first four Maternal and Child Welfare Centres (Baby Clinics) in 1918. The infant mortality rate has been reduced to 24.8 and the maternal mortality to 1.45 in 1950.

The first four Centres in Brisbane have increased to 205 Centres and Sub-centres covering the whole of the State at which mothers and guardians of children from birth to school age may obtain help, advice, and practical instruction on all matters affecting the health and welfare of those children from nurses specially trained to give such assistance. Where an infant or young child has developed a feeding or management difficulty or a disorder of nutrition with which it is beyond the capacity of the mother to deal, admission may be obtained to one of the three Homes now established to care for these children. At one of these Homes trained nurses, and in the remaining two, untrained girls, receive a comprehensive training in the principles and practice of Child Welfare with all its latest developments. Besides creating a nucleus of well informed women, many of whom will be the mothers of the future, these Homes are supplying nurses competent to educate families in matters vitally affecting the health of succeeding generations of Queenslanders. An arrangement of recent development by which medical students attend lecture demonstrations at the Training School as well as normal sessions at the Welfare Centres for observation and instruction will aid the further development of preventive medicine at its most practical stage.

The mothercraft lecture demonstrations to school girls in the metropolitan area and nearer country areas with one extension to Ipswich, has proved of inestimable value not only as an essential part of the education of the young girls involved but as a recruiting ground for nurses both in Child Welfare and other fields. The ante-natal clinics and ante and post-natal Correspondence Sections round off the work of a Service designed to help every mother in the State with her important task of bringing its future citizens to a sound physical mental and moral maturity.

Though the stocktaking shows a tremendous amount of development over the last thirty years this must be regarded merely as an incentive to what can be achieved in the years to come.

The tour of England and the continent undertaken by the Superintendent of Nurses in 1950, during which she was enabled by the Department to visit Child Welfare establishments in other countries, has supplied this Service with a yardstick by which our own achievements can be measured as well as providing a guide for future development.

Although actual comparisons are difficult between countries where the training of the nurses employed in Child Welfare Centres and the organisation of the Centres themselves differs

considerably from our own, Miss Bardsley states that it is her considered opinion that the Queensland Service within its present scope has a more effective teaching range in relation to a much greater number of the population than in other countries she has visited. However, it is noted that although the metropolitan Centres in England are not open all day, Monday to Friday, for infant clinics as is the practice here, some local authorities in that country have instituted a diversity of services to meet the needs of the mothers and children attending their Centres.

Consultations between medical and nursing administrative officers have been held here since Miss Bardsley's return for the purpose of determining whether any variation in the pattern of their services available at Centres or in the Director's Consulting Centre at St. Paul's Terrace might with advantage be instituted. The resignation of the Deputy Director made it impracticable for the present to develop new ideas but some experimentation may be made when the staff is again stable.

Prematurity.

The following table has been compiled from the records of the Brisbane Women's Hospital for the year ending 31st December, 1950:—

TABLE XXXIII.

Showing Details of Births and Deaths of Premature Infants, Brisbane Women's Hospital, 1950.

Brisbane Women's Hospital.	Live Births.	Premature Births.	Percentage of Live Births.	Deaths of Premature Infants.	Percentage Mortality of Premature Infants.
Public	2,684	148	5·5	18	12·2
Intermediate	5,902	248	4·2	20	8·1
Total	8,586	396	4·6	38	9·6

These outstanding results reflect great credit on the medical and nursing staff of the Hospital.

The following additional findings are presented:—

(1) Exchange transfusions were carried out on 36 premature babies of whom 31 survived.

(2) Blood transfusions were carried out on 54 premature babies all of whom survived.

(3) In the non-viable group (i.e. below 2 lbs. 12 ozs.) of 48 infants born 10 survived. One of these survivors, whose birth weight was 1lb. 9oz., succumbed at the age of 30 weeks, and was found at post mortem to have retrolental fibroplasia.

TABLE XXXIV.

Causes of Deaths of Premature (Immature) Infants, Queensland, 1950.

(According to International List 1948 Revision).

Cause of Death.	No.
Immaturity unqualified	155
Ill-defined diseases peculiar to early infancy, with immaturity	39
Post-natal asphyxia and atelectasis, with immaturity	29
Intracranial and spinal injury at birth, with immaturity	16
Other birth injury, with immaturity	16
Neonatal disorders arising from maternal toxaemia, with immaturity	13
Pneumonia of newborn, with immaturity	6
Haemorrhagic disease of newborn, with immaturity	3
Erythroblastosis, without mention of nervous affection but with immaturity	2
Nutritional maladjustment, with immaturity	2
Immaturity with mention of any other subsidiary condition	2
Diarrhoea of newborn, with immaturity	1
Total	284
Total under one year	284
Total under one month	281

Schick Test Reactions in Nursing Mothers.

During the year Schick tests were carried out on 101 nursing mothers at the Clayfield and St. Paul's Terrace Homes. Schick testing toxin 0.2 ccs. was injected intradermally and the test read five days later. No control tests were carried out, it being assumed that any false reaction would not persist after the fourth day. The average period after delivery was 5 weeks.

The following results were obtained:—

Positive 34,
Negative 67.

Of the 34 positive mothers 21 were not immunised, and of the 67 negatives 35 were not immunised.

These are higher figures than those obtained by Brescia who in 1942 determined the results of Schick tests in 200 mothers and their infants and found that 26 per cent. of the mothers were Schick positive.

In this present series 67 per cent. of mothers had an immunity which may have been transferred to the infant.

Brescia has pointed out—

"(*a*) Infants of immune mothers are immune until the age of three months, and begin to lose their immunity after that, until at one year 83 per cent. are non-immune.

(*b*) Infants of non-immune mothers reveal 50 per cent. Schick positive tests at birth, and by three months and thereafter 100 per cent. are non-immune."

(Brescia, *The Medical Officer*, 31*st* December, 1949.)

Whether the mother has an immunity or not, it would appear necessary from these investigations to immunise at an early age but as Vahlquist has pointed out—"In countries with more or less widespread natural

immunity, passively transferred antibodies may interfere with the effect of vaccination in the first period of life and hence vaccination on a large scale should not be attempted in infants under the age of 6 months.'' (*Lancet,* January 1st, 1949).

Haematological Investigation During The First Year of Life.

With the co-operation of the Laboratory of Micro-Biology and Pathology, blood counts were carried out during the year on 278 infants of ages varying from one week to twelve months. The great majority of these infants were in residence either at the St. Paul's Terrace Home or the Clayfield Home. The remaining few attended the Metropolitan Centres or the Director's Consultant Centre.

The technique employed with regard to haemoglobin was the estimation of oxy-haemoglobin using a modified Fisher electro-haemometer, capillary blood being used.

The results obtained are as shown in Table XXXV.

TABLE XXXV.

Results of Blood Counts on 278 Full Term Infants at Ages Varying from 1 Week to 1 Year.

Age.	Number of Infants.	Red Cells per cubic m.m. x 10·6 (average).	Haemoglobin gms. per 100ml (average).	Mean Corpuscular Haemoglobin (average).
1– 2 weeks	19	4·8	15·0 gms.	31
2– 3 weeks	19	5·1	16·1 gms.	31
3– 4 weeks	27	4·9	14·9 gms.	31
4– 6 weeks	35	4·4	13·4 gms.	30
6– 8 weeks	25	4·1	12·1 gms.	30
8–12 weeks	16	3·7	11·3 gms.	29
12–16 weeks	14	4·0	11·8 gms.	29
16–20 weeks	13	3·9	10·9 gms.	28
20–24 weeks	13	4·4	12·3 gms.	30
24–28 weeks	11	4·2	11·5 gms.	27
28–32 weeks	18	3·8	10·8 gms.	29
32–36 weeks	17	4·0	11·3 gms.	28
36–42 weeks	14	3·8	10·9 gms.	29
42–47 weeks	20	4·1	11·2 gms.	28
47–52 weeks	17	4·0	11·4 gms.	29

Accepting the normal standard of haemoglobin as 15 gms. and the red cell count as 5 million cu. m.m. the results obtained conform more or less with the findings of Helen Mackay (1933).

The haemoglobin values of full term infants were compared with those of premature infants. There was no statistical significance in the differences between these two groups (see Table XXXVI.

TABLE XXXVI.

Showing Haemoglobin Values of Full Term and Premature Infants.

Age.	Full Term Infants.		Premature Infants.	
	Number of Infants.	Haemoglobin grams per 100 ml.	Number of Infants.	Haemoglobin grams per 100 ml.
1– 2 weeks	19	15·0 gms.	3	15·2 gms.
2– 3 weeks	19	16·1 gms.	2	16·1 gms.
3– 4 weeks	27	14·9 gms.	3	13·0 gms.
4– 6 weeks	35	13·4 gms.	15	12·1 gms.
6– 8 weeks	25	12·1 gms.	15	12·1 gms.
8–12 weeks	16	11·3 gns..	10	10·4 gms.
12–16 weeks	14	11·8 gms.	3	11·1 gms.
16–20 weeks	13	10·9 gms.	3	11·1 gms.

Comparisons were also made between.—

(*a*) Full-term breast-fed infants and full-term artificially fed infants.

(*b*) Full-term infants whose birth weights were 8 pounds, between 8 and 7 pounds, and below 7 pounds.

No significant differences were found.

Zibordi (1925) and Mackay have found during the first year of life that the haemoglobin was 1-4 per cent. lower in artificially fed infants than in those who are breast fed. Hutchinson (1935) found a difference of as much as 9 per cent.

Haemoglobin values at different age groups determined by Andresen and Mugrage (*Folia Haematalogica* 61, 1938) were compared with the present series and the results are as follows:—

TABLE XXXVII.

Haemoglobin Values at Varying Ages (grams per 100 ml.)

Age.	Andresen and Mugrage.	Present Series.
3 days–2 months	14·64	14·3
2–4 months	11·15	11·5
4–8 months	12·29	11·4
8–12 months	11·81	11·2

The normal or physiological "anaemia" of infants in the first few months of life has been demonstrated in this series.

In a discussion on this subject at the Sixth International Paediatric Congress at Zurich, 1950, Professor R. A. McCance, Department of Experimental Medicine, University of Cambridge, made the following statement:—

"All young animals have a period of anaemia. This is a physiological phenomen. The physiological anaemia certainly does not matter as far as the breast fed baby is concerned. The giving of extra iron will not do harm, but it is doubtful if it will do any good. It is suggested that if people want to give iron it should be given as Ferri et Ammon. Cit. or other absorbable iron, as the amount of food which could be given contains very little iron in any case."

Summarising the results of these investigations—

(1) Brisbane infants do not exhibit any greater degree of anaemia than infants investigated in other parts of the world.

(2) The lower values obtained in the early months of life are due to a physiological rather than a pathological state.

(3) Infants with haemoglobin and red cell levels normal for their age, do not require the addition of iron to their diet.

(4) Infants who exhibit a true anaemia, should be given iron in therapeutic doses rather than by the slow, inadequate and uncertain means of the addition of iron-containing foods to the diet.

Study Tour Undertaken by Superintendent.

In July and August, 1950, the Superintendent of Nurses and of the Training Centres, Miss D. Bardsley, who was on leave in England, was requested by the Department to undertake a study tour involving visits to Maternal and Child Welfare Centres and Homes, Nurse Training Schools, general and midwifery hospitals and special hospitals with particular reference to staffing, geriatric units, etc. During this period the Superintendent was attached to the Nursing Section of the Ministry of Health and made a thorough study of the function and range of activities covered by that section in the new National Health Scheme.

The facilities made available to Miss Bardsley by the Ministry made it possible for her to discuss all these matters with medical and nursing personnel who were specialists in the particular field under review and she has brought back a large amount of material some of which has already been of considerable use to the Service as well as to the Department.

During the last ten days in July the Sixth International Paediatric Congress was held in Zurich, Switzerland, and the Swiss association of graduate nurses, feeling that nurses are as essential a part of a paediatric service as doctors, had arranged with the Swiss Medical Association to invite paediatric nurse representatives from every country affiliated with the International Council of Nurses.

Miss Bardsley was nominated to represent Australia and the Department arranged for her to attend. Australia was not well represented and Miss Bardsley was the only Queenslander present. The programme covered by her included sessions on child psychiatry and neurology, problems of the protection of children in countries with a high, and in countries with a low child mortality rate, care and feeding of premature infants, collaboration between the doctor and nurse in the Paediatric Service, film demonstrations, and visits to maternity and children's hospitals, child welfare centres and the International Children's Village at Trogen. The scientific and industrial exhibitions, exhibitions of the World Health Organisation and of medical literature provided a wealth of information covering child welfare work all over the world. Much valuable material was obtained.

Miss Bardsley was requested by Miss Lyle Creelman, Nurse Consultant of the World Health Organisation, to speak on the Queensland Maternal and Child Welfare Service at one of the sessions, as Miss Creelman had had such good reports of the service. Miss Bardsley was also invited by Miss Creelman to attend a seminar for young paediatricians which was held at Geneva following the Paediatric Congress but unfortunately she was unable to do this owing to previous commitments. The fact that many paediatricians and scientists attended at their own exhibitions for certain periods during each day and gave talks and explanations, made it possible for Miss Bardsley to bring forward various problems concerning infants and children upon which she desired information. An interview of some length with Professor R. A. McCance of the Department of Chemical Research, Cambridge, England, who with Helen Widdowson had an exhibition on chemical development of the infant in utero and after birth, most of it original work, elicited valuable information on anaemias of infancy and some useful suggestions were received concerning the causes of loss of weight which occur in some parts of Queensland during very hot weather, mostly among artificially fed infants and toddlers.

Miss Bardsley wishes to record her appreciation of the help and courtesy she received from everyone who assisted with her tour and especially from the officers of the Nursing Division of the Ministry of Health who arranged her tour and afforded her every means of obtaining information. Thanks are also due to the Agent-General and his officers who arranged her travel to and from Switzerland and gave every possible assistance.

Tours of Inspection.

The Deputy Director made a tour of inspection from 14th August to 9th September, 1950, travelling approximately 5,200 miles visiting 18 centres, the properties for Homes at Townsville and Rockhampton, Toowoomba Home and the Railway Car. Dr. Reid discussed local problems with all Sisters, and as a result of his visit many improvements were effected. There are still a few Centres in which the Centre accommodation is not very satisfactory, but with the housing and material shortages existing, although every effort is being made to improve conditions, it is not possible to carry out all the improvements desired.

During April, 1951, the Deputy Superintendent made a tour of inspection travelling 1,847 miles on the west and south-western railways of the State.

During this tour, where practicable, the sub-centres were visited, not the Resident Centres as these were visited during previous inspections. This gave a first-hand knowledge of the service given, also the needs of the mothers in these outside districts and smaller towns. It gave the Sisters in charge a better opportunity of discussing conditions and problems pertaining to each district. It encourages her to realise the interest that is shown in her work, also the appreciation of her effort and good work as a member of the staff.

It is intended to make inspection tours to defined areas in this manner gradually covering the whole State.

BIRTHS.

During the year 1950, 29,028 births were registered in Queensland, an increase of 1,280 over the previous year and the highest on record. The crude birth rate was 24.6 as compared with 24.2 in 1949.

In 1950 there were 14,880 males and 14,148 females born giving a masculinity rate of 105 males for every 100 females born.

The natural increase of births over deaths of 18,629 for 1950 was equal to an increase of 1.61 per cent. of the population of Queensland compared with 1.55 per cent. in 1949.

MARRIAGES.

Registrations of marriages during the year numbered 10,304 compared with 10,234 in 1949. The marriage rate was 8.7 per thousand mean population compared with 8.9 in 1949 and was the lowest since 1937 when the rate was 8.4.

Minors married during the year numbered 3,814, of whom 658 were males and 3,156 were females.

DEATHS.

Maternal.

The number of deaths of women due to diseases of pregnancy and childbirth was 42 in 1950, with a corresponding mortality rate of 1·45 per thousand live births. This is a slight rise on the record low figure of 1·44 in 1949 when there were 40 deaths.

Of the 42 deaths occurring in 1950, 12 followed childbirth and 26 were due to diseases and accidents of pregnancy (excluding abortion).

The causes of the 12 deaths due to diseases and accidents of childbirth were as follows:—

Puerperal toxaemias and infection during childbirth and purperium	5
Haemorrhage of childbirth and purperium	4
Other accidents of childbirth, including Caesarian section	3

The causes of the 26 deaths due to diseases and accidents of pregnancy were as follows:—

Toxaemia of pregnancy	18
Ectopic gestation	4
Other diseases and accidents of pregnancy	4

Infantile.

Deaths of infants under one year numbered 719 compared with 686 in 1949, an increase of 33. The infantile mortality rate of 24·8 per thousand live births showed a slight rise on the record low rate of 24·7 in the previous year.

The rate for the metropolitan area for 1950 was 22·7 compared with 21·4 in 1949. The sub-tropical area showed on increase from 24 in 1949 to 25·3 in 1950 whilst the tropical area showed a decrease from 30 in 1949 to 27 in 1950.

TABLE XXXVIII.

CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR, QUEENSLAND, 1950.

Cause.	1949. (*a*)	1950.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (*b*)	Tropical.	Total.	
Immaturity (unqualified)	235	49	69	37	155	−80
Congenital Malformations	102	39	44	25	108	+6
Intracranial and Spinal Injury at Birth	83	24	35	24	83	+32
Other Birth Injury		7	12	13	32	
Postnatal Asphyxia and Acelectasis	45	19	33	13	65	+20
Haemolytic Disease of Newborn (Erythroblastosis)	6	8	14	3	25	+19
Pneumonia of Newborn	19	10	7	5	22	+3
Neonatal Disorders arising from Maternal Toxaemia	3	5	4	5	14	+11
Haemorrhagic Disease of Newborn	9	6	4	1	11	+2
Diarrhoea of Newborn	1	2	2	..	4	+3
Other Diseases Peculiar to Early Infancy	18	21	25	8	54	+36
Total Diseases of Early Infancy	521	190	249	134	573	+52
Broncho-pnuemonia, other and unspecified Pneumonia	43	9	19	9	37	−6
Gastro-Enteritis and Colitis	40	1	3	5	9	−31
Whooping Cough	4	1	3	5	9	+5
Lobar Pnuemonia	5	2	..	5	7	+2
Diphtheria	4	..	1	..	1	−3
All Other Causes	69	29	30	24	83	+14
Total Deaths under 1 Year	686	232	305	182	719	+33

(*a*) Figures for 1950 are not strictly comparable with earlier years, on account of the introduction in 1950 of the latest (1948) revision of the International List of Causes of Death.

(*b*) Excludirg Metropolitan.

There were 537 deaths of children aged under one month and 182 deaths of children aged from one month to under one year during the year, the corresponding mortality rates being 18·5 and 6.3 per thousand live births. The mortality rate for children aged under one month (18·5) showed a slight rise on the record low rate in 1949 (17·3).

TABLE XXXIX.

CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND, 1950.

Disease.	1949.	Under 4 weeks.				Increase or Decrease.
		Metro-politan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified)	233	49	69	37	155	−78
Intracranial and Spinal Injury at Birth	82	24	35	23	82	+32
Other Birth Injury		7	12	13	32	
Congenital Malformations	64	27	34	13	74	+10
Post-natal Asphyxia and Atelectasis	43	17	33	12	62	+19
Haemolytic Disease of Newborn (Erythro-blastosis)	6	7	14	3	24	+18
Pneumonia of Newborn	19	10	7	5	22	+3
Neonatal Disorders arising from Maternal Toxaemia	3	5	4	5	14	+11
Haemorrhagic Disease of Newborn	8	6	4	1	11	+3
Diarrhoea of Newborn	1	2	2	..	4	+3
Other Diseases Peculiar to Early Infancy	12	20	25	5	50	+38
Total Pre-natal Causes	471	174	239	117	530	+59
Whooping Cough	..	..	..	..	..	..
Diphtheria	..	..	..	..	..	..
Lobar Pneumonia	..	..	..	..	..	..
Broncho-pneumonia, other and unspecified Pneumonia	..	..	..	..	..	..
Gastro-Enteritis and Colitis	..	..	..	..	..	..
All other Causes	10	4	..	3	7	−3
Total Deaths Under 4 weeks	481	178	239	120	537	+56

a Excluding Metropolitan.

TABLE XL.

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH, BUT LESS THAN TWELVE MONTHS OF AGE—QUEENSLAND, 1950.

Disease.	1949.	Four Weeks and under 1 year.				Increase or Decrease.
		Metro-politan.	Sub-Tropical. (a)	Tropical.	Total.	
Congenital Malformations	38	12	10	12	34	−4
Postnatal Asphyxia and Atelectasis	2	2	..	1	3	+1
Haemolytic Disease of Newborn (Erythro-blastosis)	..	1	..	..	1	+1
Intracranial and Spinal Injury at Birth	1	..	..	1	1	..
Other Birth Injury		..	..	..	..	
Haemorrhagic Disease of Newborn	1	..	..	..	..	−1
Immaturity (Unqualified)	2	..	..	..	..	−2
Pneumonia of Newborn	..	..	..	..	..	..
Diarrhoea of Newborn	..	..	..	..	..	..
Neonatal Disorders arising from Maternal Toxaemia	..	..	..	..	..	..
Other Diseases Peculiar to Early Infancy	6	1	..	3	4	−2
Total Pre-natal Causes	50	16	10	17	43	−7
Broncho-pneumonia, other and unspecified Pneumonia	43	9	19	9	37	−6
Gastro-Enteritis and Colitis	40	1	3	5	9	−31
Whooping Cough	4	1	3	5	9	+5
Lobar Pneumonia	5	2	..	5	7	+2
Diphtheria	4	..	1	..	1	−3
All Other Causes	59	25	30	21	76	+17
Total Deaths 4 Weeks and Under 1 Year	205	54	66	62	182	−23

a Excluding Metropolitan.

Deaths of Children Aged One Year and Under Five Years.

(*a*) Deaths of children aged one year and under two years during the year numbered 77, representing a death rate of 2·8 per thousand children in that age group.

The chief causes of death were:—

Accidents	14
Broncho-pneumonia	11
Congenital malformations	8
Gastro-Enteritis and Colitis	8
Bronchitis	4

Of the 14 deaths due to accidents 5 were caused by drowning, 2 by motor accidents, and 2 by accidental poisoning.

(*b*) Deaths of children aged two years and under five years during the year numbered 96, representing a death rate of 1·2 per thousand children in that age group.

The chief causes of death were: —

Accidents	21
Gastro-enteritis and Colitis	7
Broncho-pneumonia	6
Malignant neoplasms	6
Pneumonia (other)	5

Of the 21 deaths due to accidents, 6 were caused by drowning and 4 by motor accidents.

Accidental Deaths Between One and Fourteen Years.

Recent reports from overseas has focussed attention on accidents as a cause of mortality among children, one authority at the International Paediatric Congress in July, 1950, stating that accidents were responsible for more deaths between the ages of one year and fourteen years than from the following diseases altogether—Pneumonia, Diarrhoea, Diphtheria, Meningitis, Measles, Pertussis, Poliomyelitis, and Scarlet Fever.

There can be no doubt that increased medical knowledge has greatly reduced the number of deaths from disease but the toll from increasing industrialisation and mechanisation is on the increase.

It is reasonable to assume that a considerable number of accidents are preventable and it is the purpose of this department in co-operation with the Queensland Health Education Council to initiate a compaign of education by leaflets and posters to help reduce the death roll of children due to accidents.

Figures supplied by the Government Statistician for the State of Queensland for the years 1946, 1947, and 1948 are as follows:—

TABLE XLI.

Deaths of Children (aged 1–14 years) from Certain Diseases in Queensland.

—	1946.		1947.		1948.	
	Males.	Females.	Males.	Females.	Males.	Females.
Pneumonia	16	21	17	21	25	15
Diarrhoea	8	5	15	14	3	8
Diphtheria	13	6	8	3	3	2
Meningitis	3	6	2	1	3	10
Measles	4	6	5	3	2	..
Pertussis	3	2	4	5	1	..
Poliomyelitis	3	3	..	..	1	..
Scarlet Fever	..	..	2	..	..	..
	50	49	53	47	38	35
Totals	99		100		73	

TABLE XLII.

Deaths of Children (aged 1–14 years) from Accidents in Queensland.

—	1946.		1947.		1948.	
	Males.	Females.	Males.	Females.	Males.	Females.
Road Accidents	14	8	10	9	13	12
Firearms	3	..	6	..	2	1
Drowning	15	2	15	6	9	1
Falls	7	1	10	4	8	3
Other Accidents	26	14	19	12	11	6
	65	25	60	31	43	23
Totals	90		91		66	

For the three years 1946, 1947, and 1948, deaths due to the diseases mentioned were 272, whilst those due to accidents were 247.

The preponderance of males over females in deaths due to accidents is striking, 168 males as compared with 79 females or more than 100 per cent. and this preponderance is shown in all causes being least marked in road accidents.

Thirty-nine per cent. of all accidental deaths in Queensland were due to road accidents. Figures taken from a leaflet prepared by the Metropolitan Life Insurance Company of America show that motor vehicle accidents account for 34 per cent. of all accidental deaths between the ages of one and fourteen years.

The Year's Work.

The number of Centres and Sub-centres throughout the State now totals 205, 45 being in the metropolitan area and 160 in the country.

The total attendances numbered 361,977.

The following new Centres and Sub-centres were opened during the year:—

New Resident Centres Established.

(1) Mt. Morgan on 21st August, 1950.

(2) Longreach on 2nd April, 1951.

Blackall which was formerly visited by train from Emerald is now visited by plane from Longreach. As a result of the establishment

of a Resident Centre at Longreach, the itineraries at Barcaldine and Emerald have been altered to the following:—

Barcaldine with Sub-centres Alpha and Jericho;

Emerald with Sub-centres Blair Athol, Capella, Clermont, and Springsure.

New Sub-centres Established.

(1) Earlville on 2nd August, 1950, visited from Cairns.

(2) North Rockhampton on 21st August, 1950, visited from Rockhampton.

(3) Cooktown on 6th September, 1950, visited by plane from Cairns.

(4) Cloncurry on 2nd January, 1951, visited by plane from Mt. Isa.

(5) Marian on 25th January, 1951, visited from Mackay.

(6) Barce on 5th June, 1951, visited from Mt. Morgan.

(7) Red Hill on 7th June, 1951, visited from Mt. Morgan.

(8) Calen on 19th June, 1951, visited from Mackay.

Toddlers' Centres.—

(1) Cairns Toddlers' Centre opened on 14th July, 1950.

(2) Townsville Toddlers' Centre opened on 22nd November, 1950.

Mothercraft Homes.—The conversion of the properties acquired at Rockhampton and Ipswich into Mothercraft Homes is well under way, and it is confidently anticipated that these Homes will be opened before the 30th June, 1952.

New Centre.—A new centre at Paddington, which will cater for the needs of the Ashgrove, Bardon, Kelvin Grove and Rosalie districts, is nearing completion, and it is anticipated that it will be opened in a few months. This modern Centre will be a decided acquisition to the Paddington district.

Sub-centres approved.—Approval has been given for the establishment of Sub-centres at Muttaburra, Archerfield Housing Establishment and Wacol Housing Establishment.

In addition to new sub-centres opened, requests have been received from the following districts for the establishment of sub-centres—Clare, Grovely, Japoon, Kalbar, Maleny, Park Avenue, Tara and Wandoan. When the staff position is sufficiently improved these requests will be reviewed and it is hoped that most of them will be able to be granted.

Rail Car.

With the establishment of a Sub-centre at Cloncurry, the Rail Car no longer visits there and the itinerary is now Winton, Hughenden, Julia Creek, Maxwelton and Richmond.

Mothers and children were attended at many sidings, including Corfield, Olio, Oondooroo, Stamford, Whitewood, Marathon, Nelia, Nonda and Chimbi.

Visits to Dajarra and Kajabbi were cancelled in February owing to the very small attendances and the high cost of haulage. These townships can now be served by the Mt. Isa and Cloncurry Centres and the Correspondence Section.

Approval has been granted for the installation of a Rock Gas System with gas stove, sink heater, steriliser and hot shower.

St. Paul's Terrace Home, Brisbane.

An increased number of mothers and babies were admitted to the Home during the year—106 mothers and 193 babies being admitted. Many requests were received for admission from the country as well as the metropolitan area and infants were admitted from Proserpine, Nambour, Ipswich, Rockhampton, Townsville, Charleville, Gatton, Murwillumbah, Tamborine and Maleny.

Ten sets of twins were admitted during the year as well as one set of triplets, for feeding, care and management. The tendency to feed babies artificially is increasing and many babies of less than a month old are found to be artificially fed on admission.

During the year some important improvements have been carried out. A special oxygen bassinette has been purchased to be used when continuous oxygen is necessary. The enclosing of the west wing for use as a babies' bath-room has given extra space and is much more convenient. The old bath-room has been converted into a linen room. The diet kitchen has been moved to a room adjoining the lecture room and the extra space thus provided has allowed more babies to be taken into residence. It is now possible to admit 14 babies instead of 10 as previously.

St. Paul's Terrace Training School.

Two terms of the six months training period have now been completed and both staff and trainees feel that much benefit has been derived from the longer period of training. The added experience, in the Home and Centres, in the Correspondence Section, in Social Welfare work and in the Toddlers' Centres, should prove invaluable and give a better understanding of the work of the Service.

In December, thirty nurses sat for the examination as Child Welfare Nurses, twenty-seven being successful, and in June, thirty candidates were presented for examination and all were successful.

Clayfield Home, Brisbane.

In spite of no increase in actual numbers, the daily average has increased during the past year. 202 babies and 73 mothers were admitted during the year.

A large number of babies have remained for lengthy periods instead of the shorter time usually considered necessary. These "long term" residents have included extremely difficult toddlers and numerous sets of twins. Illness of the mother, death of the mother and housing difficulties have all contributed to long stay at the Home.

Again, it is necessary to record the predominance of the artificially-fed babe and the frequent requests for admission of these infants. They

present many more problems—both feeding and behaviour, than the breast fed infant. Whether the naturally fed child is fed by "routine" or "self demand," he is always a better baby.

Much of our difficulty comes from the very early weaning of babies and it would seem that this is increasing. A number of infants under one month have been admitted during the year, and in many cases have presented feeding problems. The subsequent progress of these babies is due, in no small measure, to the giving of scalded expressed breast milk, obtained from mothers with an over abundant supply. To these mothers, sometimes residents and sometimes attendants at a Centre, should go the thanks of both babies and parents.

Much has been said and written of infant feeding, but no one method of feeding has ever been found completely satisfactory for every baby.

The year has been a difficult one with additions and alterations being carried on for the past months. Probably the laundry alterations have been the greatest hardship and without the help of the drying room, it has been necessary on numerous wet days to transport linen to a steam laundry for drying.

The additions when finished, will be very welcome, and will enable two more mothers with breast fed babies to be admitted. The new sterilizing room has made for better and easier working and has improved the technique of the milk room.

Clayfield Training School, Brisbane.

The girls in training have been keen and interested. The December group numbered seventeen and gained 100 per cent. pass in examination for Child Welfare Assistants. The June group, fourteen in number, had one failure in examination. A large number of these girls go on to further nursing training. A small number continue to do private work and are much sought after. The training of these girls is exacting, calling for much careful training, tact and understanding.

Maternal and Child Welfare Home, Toowoomba.

During the year 32 mothers and 68 babies were admitted to the Home. Limited accommodation for mothers is restricting the admission of breast fed cases and plans are in hand for the erection of new staff quarters, and the conversion of the present staff quarters into accommodation for mothers.

Infants admitted during the year included several premature babies (including twins), two cases of cleft palate and harelip, a severe case of Pink Disease, and many difficult artificially fed infants.

The new laundry complete with drying room, water softener, slop hopper and sluicing sink was completed during the year. A gas heater was installed in the dining room, new linoleum was laid in the front hall and milk room, and a room was provided in which the night sister could sleep without being disturbed.

Toowoomba Home Training School.

During the year examinations for trainees were held in December and June. Six trainees graduated in December and four in June as Child Welfare Assistants.

Of the ten trainees who graduated during the year, eight have decided to commence their training as general nurses.

The number of girls applying for training has shown an increase, eight trainees being in the present grade and five in the succeeding one.

Lectures were given by Drs. G. V. Hickey, Senior and Junior, and Miss A. Clark. Matron Woodgate and Miss Godsmark assisted in the examinations.

Maternal and Child Welfare Home, Sandgate.

At the beginning of the year 21 children were in the Home, from 11 families. During the year 623 children were admitted from 224 families. Fifteen of these families returned once and two twice during the year.

Children admitted were (*a*) between the age of one and five years—170 girls and 183 boys, (*b*) between the age of five and twelve years—118 girls and 152 boys. The number of days in residence being 11,697.

Sixty-one children were sent to hospital, thirty of these during the months of August and September when an outbreak of mumps and chickenpox occurred in the Home. One child who was admitted to the Home with a fractured femur had to be returned to hospital for splint adjustment. Thirty-one children were returned from the hospital, the others were discharged from hospital to their own homes.

Many children when admitted are dirty, undernourished and covered with sores. These children are difficult to handle and difficult with their food for a time, but when they have settled down and are taking proper food, generally make good progress and at time of discharge are free from sores, well in health, gaining in weight and pleasant happy children.

Christmas was a joyous time for the children. They were entertained at parties by the Sandgate Girl Guides and the Baptist Sunday School before Christmas, and the staff of the Home had a Christmas tree and party at Christmas, toys from the Department and "Courier Mail Toy Fund" being given to each child.

The Baptist Sunday School teachers have held Sunday School for the children each Sunday and moving pictures were shown once a month. Thanks are due for the kindly interest these people take in the children.

Jubilee Day was also a great day of enjoyment to the children. A flag pole with a flag provided by the Department is a great asset and the pride of the children. The children also greatly enjoyed the picnic and toys provided on Jubilee Day.

The grounds of the Home have been improved during the year by the addition of lawn and gardens which are a source of pride and joy to the staff.

Hot water systems have been installed in downstairs bathrooms and laundry. Two washing machines have also been installed.

In the Babies Home the year commenced with 5 babies in residence, 3 males and 2 females.

During the year 81 babies (44 males and 37 females) were admitted. Three babies were admitted to hospital.

Three babies were adopted from the Home and three were sent to the State Home for adoption.

Child Welfare Assistants under the direction of the sisters enjoy having these infants and do good work with them.

Ante-natal Clinics.

There has been an overall decrease in attendance at Ante-natal Clinics with the exception of the Woolloongabba Centre, where there was a slight increase. This can be attributed to the fact that more mothers are attending private practitioners as the number of suburban practices has increased.

On investigation of diet, most patients were found to be having an adequate and balanced intake of food, but where necessary, vitamin, calcium and iron preparations were prescribed.

Each patient had a full blood examination after her first visit, and if this was early in the pregnancy she had a further blood count and plasma protein estimation in the later months. This is a routine procedure in the city Clinics, but it is also implemented at the Caboolture Clinic if the patient is able to visit Brisbane to attend the Laboratory. Those patients whose blood count was below the physiological normal of pregnancy were advised concerning diet and treated for anaemia.

If examination showed the patient Rh negative, further tests were performed at regular intervals to detect the presence of anti-bodies. Other conditions such as multiple pregnancy, hydramnios, breech presentation, contracted pelvis, toxaemia, were referred when necessary to the Women's Hospital.

The post-natal follow-up of patients is still unsatisfactory, but an effort is being made to impress upon patients the importance of the post-natal visit. It is at this time that advice can be given regarding the treatment of conditions which complicated, but were unrelated to, the pregnancy. Patients may need to be referred for gynaecological treatment to ensure complete recovery from the confinement or to rectify any abnormality which may impair health or complicate a later pregnancy.

Attendances for the year ending 30th June, 1951, were as follows:—

Fortitude Valley	408
Woolloongabba	534
Caboolture	112
Herschell Street	30
Nundah	4
West End	21
Talks to Mothers	53
Total Attendances	1,162

Ante-natal Clinics and individual talks to mothers continue at the Metropolitan Centres but unfortunately have not increased in attendance.

Correspondence Service for Expectant Mothers.

The number of circulars forwarded to expectant mothers has decreased a little during the year as monthly lists from some country hospitals are not received regularly. When we are able to contact expectant mothers a great interest is shown in the service given and many personal letters received later from them.

Requests for a supply of ante-natal and post-natal exercise books were received from six doctors and three hospitals. The doctors had seen a copy sent to one of their patients by the Correspondence Service.

TABLE XLIII.

Circular letters forwarded to expectant mothers	4,891
Response to circular letters	1,440
Circular letters forwarded to expectant mothers (other than above) *re* "Expectant Mother" book	2,257
Serial letters to expectant mothers	8,495
Special letters of advice sent on request	144
Copies of "The Expectant Mother" sent on request	1,317
Copies of baby patterns sent on request	117
Copies of other patterns sent on request	27
Copies of special exercises sent on request	1,456

Director's Consultant Centre.

During the year a number of infants and toddlers whose feeding and management had proved difficult were referred to the Director by Sisters in Charge of metropolitan and country Centres and by private medical practitioners.

Children for admission to Sandgate Maternal and Child Welfare Home and Red Cross Home, Margate, were examined and throat swabs taken.

Attendances for the year ending 30th June, 1951, were as follows:—

Number of children examined for admission to Sandgate Home	858
Number of children examined for admission to Margate Red Cross Home	450
Attendances at Director's Consultant Centre for advice	1,070
Total number of children examined or advised at Centres	2,378

Pre-School Health Centres.

At the fifteen centres and seven kindergartens, children from the age of 1 to 5 years were examined by the Director, Deputy Director or Assistant Director.

The total number of examinations made during the year was 3,857 of which 1,818 were first examinations and 2,039 were subsequent examinations. The total examinations during the previous year numbered 3,969.

There is a slight increase in the number of first examinations over the previous year.

The following table shows the main abnormalities found at the half-yearly examinations:—

TABLE XLIV.

Enlarged Tonsils	597
Knock Knees	564
Flat Feet	564
Carious Teeth	207
Bow Legs	97
Anorexia	89
Rashes	61
Insomnia	50
Heart Murmurs	49
Stained Teeth	44
Intoeing	34
Umbilical Hernia	33
Adenoids	29
Anaemia	19
Undescended Testes	18
Bronchitis	12
Nocturnal Enuresis	10
Impetigo	9
Dirt eating	9
Squint	7

Sixty-nine blood counts, 37 specimens of urine and 19 rectal swabs were examined at the Laboratory of Micro-Biology and Pathology.

Fifty-one children were referred to their own doctors for treatment and 19 were referred to hospital.

Correspondence Section.

More mothers have been visited in Country Hospitals by our own staff Sisters therefore less birth notices were forwarded to us making slightly less responses to No. 2 Circulars—those who are unable to attend centres. There is a slight decrease in letters of advice on feeding and management. A longer interval is noticeable between letters from mothers who write regularly explaining they have to give more help on country properties and time is an important factor.

Letters are still received from isolated islands and mission stations but less from New Guinea as most mothers are being advised by the staff of European Hospitals. There is an increase in the number of one year Birthday Cards forwarded which means mothers have corresponded for a longer period than usual.

The six-monthly greeting cards are still sent regularly each month to mothers advising them to have their babies immunised against diphtheria. Many mothers in writing have mentioned they have taken this advice.

Correspondence mothers and babies from the country still continue to pay visits when in Brisbane—38 visited for additional advice.

Shopping for country mothers is still being done and supplies of essentials are forwarded C.O.D. Dried milks have been in greater demand on account of the shortage of cow's milk in the country areas.

TABLE XLV.

Number of birth notifications received	3,687
Number of circular letters posted—	
(1) within reach of centre	1,610
(2) not within reach of centre	2,077
Number of follow-up circular letters posted	2,618
Visits to Centres in response to Circular letter No. 1	630
Letters to Correspondence Section in response to Circular letter No. 2	589
Letters of advice *re* feeding and management sent on request	1,474
Number of "Care of Mother and Child" books sent on request	758
Number of Birthday Cards posted	275
Number of 6 month Greeting Cards sent advising diphtheria immunisation	2,878

Social Welfare Service.

This very important branch of the Service continues to help mothers in their own homes. By bridging the gap between the time the mothers leave hospital and the first few weeks they are at home, the Sisters see and appreciate the difficulties encountered by the mothers, particularly those with frail babies, premature infants and twins, and are able to give much needed help.

Too much importance cannot be attached to this personal service and it had originally been planned to have a Senior experienced Sister attached to each of the larger metropolitan Centres and also to the larger country Centres. Unfortunately the shortage of experienced staff has made it impossible to progress beyond the present two sisters employed. However, advancement in this section of the work is one of the main objectives of this Service, as it becomes practicable.

TABLE XLVI.

Number of newborns visited in public hospitals	9,670
Number of newborns visited in private hospitals	935
Number of newborns visited at Home	967
Number of cases visited for test feeds and advice	1,877
Number of test feeds—cases	195
Number of test feeds—feeds	275

Lecture Demonstrations to School Girls.

Mothercraft teaching in the Schools is much the same as in previous years. Thirteen metropolitan primary and secondary Schools and one Ipswich School were visited during the year. The larger schools were visited daily and at Wooloowin two classes were held four days a week. The use of a taxi made it possible to go to Hamilton from Wooloowin in one afternoon and so complete Hamilton's course in the first term of the year, which was more satisfactory for all concerned.

Unfortunately the number of Schools visited has not increased. East Brisbane and Ithaca Creek have now a Domestic Science Section. Sandgate and Oakleigh have had a Section for some years. In the secondary Schools frequent enquiries are made by the girls regarding the Child Welfare Training at Clayfield Home.

The usual functions towards the end of the School year were arranged when senior members of the Maternal and Child Welfare staff visited the Schools, gave a short address and presented the certificates and prizes to the successful pupils.

Our thanks are again due to those principals, head-masters and teachers of the various Schools, who, by their co-operation and interest help to make the Mothercraft teaching a success, and makes the work of the Sister easier.

Kindergarten and Kindercraft Trainees.

Six lectures on Child Health and Child Development were given by Dr. T. H. R. Mathewson, as well as one demonstration of the different stages of development.

Lectures were also given to the trainees by the Matron of St. Paul's Terrace Home on "The Nutritional Needs of the Mother during Pregnancy and Lactation," "The Nutritional Needs of the Infant to One Year," "The Premature Baby," and "The Psychological Reaction of a Child to Handling."

A lecture on mothercraft was given to Girl Guides by Miss Hertweck at the Woolloongabba Centre.

Medical Students.

Four lectures were given to fifth year medical students dealing with "Child Development," "Breast or Natural Feeding," "Difficulties associated with Breast Feeding which may lead to Premature weaning" and "Artificial Feeding."

Fourth year medical students were also given four lectures on "The Physical and Emotional Development of the Child" by Dr. Mathewson.

Demonstrations on normal healthy babies were given at the Brisbane Women's Hospital and babies and older children at the Fortitude Valley Centre.

St. Paul's Terrace Home was visited by students and demonstrations on infant feeding and on the infants in residence, were given.

During the year fourth year medical students visited the three main metropolitan Centres in groups of two and were given the opportunity of closely observing the work of the Centres.

Newspaper Articles.

During the year a copy of an article on some aspect of Maternal and Child Welfare work has been sent each month for publication to sixty-one newspapers in the State, including the *Queensland Agricultural Journal* and the *Queensland Dairyfarmer*. The titles of the articles were:—"A Baby talks on Crying," "The Dangerous House Fly," "Summer Hygiene," "Diarrhoea in Infancy," "Christmas Parties and Presents for Children," "Protect Your Children Against Accidents," "Help Your Child to Safety," "Child Development," "Mothers, Protect Your Children From Colds," "Your Children's Colds, How to Treat them," "Your Children's Teeth."

Publications of the Service.

In order to meet present day trends, the book "Care of Mother and Child" is in process of being rewritten, and it is hoped to have the manuscript ready for the publishers in a few months.

Requests are still being received for "The Expectant Mother," "Care of Mother and Child," "Problems of Prematurity," and "Ante-natal and Post-natal Exercises."

The booklet "Problems of Prematurity" has been distributed to medical practitioners, students and nurses and public hospitals throughout the State, and received favourable comment in the Australian Medical Journal, 19th August, 1950.

Staff.

Changes in both medical and nursing staffs have occurred during the year. The resignation of Dr. G. M. Reid, Deputy Director, became effective as from 31st March, 1951. He occupied the position of Deputy Director since 28th October, 1948. Dr. Reid has taken up private practice in Sydney. Dr. Max Brightman was seconded to the Service from the Department of Health and Home Affairs until the end of May when Dr. Pamela Mary Jackson was appointed Temporary Deputy Director and commenced duty on 4th June, 1951.

The number of nursing staff now totals 116 and of this number 45 are permanent appointees and 71 hold temporary positions. Two permanent Sisters, one of whom had been twelve years on the staff and the other four years, resigned to be married, and a third Sister left to take up another position.

The position as regards nursing staff shows no improvement. The extensions of the Service make it necessary to spread a decreasing number of experienced permanent staff so that they work to the best advantage, but there are far too many temporary Sisters holding positions for which they have not received adequate preparation, and in addition the changes amongst temporary staff are always greater than with a stable permanent staff. Most of these will resign as soon as a more attractive position presents itself. Apart from the present day tendency for nurses to move from one State or country to another the general shortage of nurses makes it possible for them to pick and choose their positions, and the young nurse of to-day will not usually suffer the discomforts and inconveniences which have been patiently accepted by senior Sisters in the Service for many years.

There is no question that the work of the Service suffers, especially in country areas, from an unstable staff position and it is felt that every effort must be made to remedy the present situation. The Superintendent conferred on this matter with Superintendent Health Visitors and other officers during her visit to England and was informed that where cottages were provided for the Sisters engaged in this work, no difficulties of staffing occurred.

The importance of the work of the nurse in any paediatric service is being increasingly recognised by world-wide organisations concerned with child care in all its aspects. Not only does the nurse carry out the specialised work for which she is trained, but she becomes at her best a valuable public health teacher. It is most important therefore that this Service employs nurses with high personal and professional qualifications as well as a strong sense of public service and responsibility and to obtain this we must pay for it.

In spite of almost insurmountable difficulties the staff has been disposed to the best possible advantage and much valuable work has been done all over the State.

Baby Clinic Social Club.

It was decided at the Annual Meeting held in October that meetings should be held quarterly instead of monthly. A welcome home was given to Miss Bardsley and her sister, Mrs. Covell, at Herschell street. An interesting talk was later given by Miss Bardsley on child welfare in England. Dr. and Mrs. Reid were farewelled prior to their departure for Sydney.

Parcels have been sent to our sponsored child Marion Saunders in England and a sum of money was sent to the "Florence Nightingale Fund" Committee.

In September, Dr. Justin O'Reilly of the Department of Micro-Biology and Pathology, gave a very interesting talk on "The Importance of Pathological Investigation in Relation to Diagnosis" which was very much appreciated.

Acknowledgments.

Grateful acknowledgement is made of the helpful co-operation of other Government Departments, The Queensland Country Women's

Association, The Queensland Health Education Council, The Government Statistician, the staff of the Brisbane Children's Hospital, the Mater Children's Hospital, and the Brisbane Women's Hospital, the Principal of the Kindergarten Training College, the proprietors of newspapers in which our monthly articles are published and to the many others who have helped to further the work of this Service.

Sincere thanks are also due to the members of the staff for their loyalty and devotion to duty during the year.

TABLE XLVII.

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS.

Year.	Visits to Newborns.	Subsequent and Other Visits.	Total Visits.
1948–1949	22,912	2,396	25,308
1949–1950	23,658	2,705	26,363
1950–1951	24,191	2,667	26,858

TABLE XLVIII.

ATTENDANCES AT CENTRES.

Number of New Cases seen at the Centres.

	1948–49.	1949–50.	1950–51.
Infants—			
Under one year ..	18,083	17,719	17,567
One to two years ..	4,574	5,257	5,087
Over two years ..	2,234	2,600	2,146
Total ..	24,891	25,576	24,800
Expectant mothers ..	997	939	756
Total new cases	25,888	26,515	25,556

TABLE XLIX.

ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES.

Metropolitan.

—	1948–49.	1949–50.	1950–51.
Fortitude Valley ..	24,381	22,561	19,804
Branches—			
Caboolture ..	910	562	661
Clayfield	2,186	1,718	1,624
Dayboro	361	352	183
Enoggera	2,118	1,868	1,522
Hamilton	1,498	1,371	1,028
Hendra	1,612	1,357	1,102
Mitchelton (opened 2–12–49) ..	..	422	1,340
Newmarket-Grange	1,381	1,523	1,114
Windsor	2,846	2,353	1,880
	37,293	34,087	30,258
Herschell Street ..	18,356	15,639	13,407
Branches—			
Ashgrove	3,501	3,541	3,253
Auchenflower (Closed Nov., 1949)	752	165	..
Bardon	1,990	1,814	1,837
Corinda	2,936	3,096	2,409
Darra (oponed 4–11–49) ..	..	359	454
Graceville ..	2,230	2,322	2,137
Indooroopilly ..	1,452	1,319	1,432
Kelvin Grove ..	1,988	1,569	1,222
Paddington ..	1,792	1,552	1,486
Rosalie	1,892	2,230	1,809
St. Lucia	503	520	386
Toowong	2,114	2,358	1,594
	39,506	36,484	31,426

Metropolitan—continued.

	1948–49.	1949–50.	1950–51.
Nundah	5,446	5,606	6,144
Branches—			
Cribb Island ..	251	310	288
Geebung ..	228	391	378
Kedron	3,142	3,249	3,391
Redcliffe ..	2,359	2,012	1,913
Sandgate	4,463	3,545	3,145
Zillmere	316	257	328
	16,205	15,370	15,587
West End	9,601	8,536	7,749
Branch—			
Beenleigh (from Dec., 1949) ..	..	339	745
	9,601	8,875	8,494
Woolloongabba ..	20,275	19,050	17,717
Branches—			
Beenleigh (to Nov., 1949)	641	308	..
Bulimba	1,861	1,941	1,551
Camp Hill ..	1,884	2,190	1,644
Ekibin	970	1,038	949
Holland Park ..	2,156	2,226	1,916
Holland Park T. H. Establishment ..	951	822	559
Ipswich Road ..	2,460	2,402	1,998
Morningside ..	1,568	1,623	1,863
Rocklea T. H. Establishment ..	1,029	917	585
Salisbury	973	1,036	852
Stones Corner ..	638	708	635
Yeronga	1,551	1,893	1,615
	36,957	36,154	31,884
Wynnum	7,399	8,131	8,221
Branch—			
Cleveland ..	519	581	725
	7,918	8,712	8,946

Country.

Atherton	1,913	2,085	2,462
Branches—			
Herberton	333	312	372
Malanda	646	816	701
Millaa Millaa ..	912	955	590
Ravenshoe ..	779	859	735
Tarzali (closed 8–6–51) ..	37	27	31
Yungaburra ..	324	293	170
	4,944	5,347	5,061
Barcaldine	1,376	1,221	1,251
Branches—			
Alpha (from 2–4–51)	..	..	51
Aramac	516	413	230
Jericho (from 2–4–51) ..	..	..	33
Longreach (to 2–4–51) ..	1,290	1,589	1,188
	3,182	3,223	2,753
Biloela	2,374	2,754	2,661
Branches—			
Baralaba	419	178	120
Goovigen	306	150	172
Jambin	176	136	63
Moura	162	131	118
Thangool	537	399	330
Theodore	463	407	257
Wowan	659	431	427
	5,096	4,586	4,148

Country—continued.

—	1948–49.	1949–50.	1950–51.
Bowen	2,401	3,022	2,161
Branches—			
Collinsville ..	1,448	1,375	1,088
Murroona (opened 3–4–50) ..	..	246	192
Proserpine ..	1,374	1,346	1,714
	5,223	5,989	5,155
Bundaberg	7,682	8,708	8,410
Branches—			
Gin Gin	322	341	454
Miriam Vale (from 5–1–51) ..	..	..	117
	8,004	9,049	8,981
Cairns	8,997	9,354	10,920
Branches—			
Cooktown (opened 6–9–50) ..	..	..	179
Earleville (opened 2–8–50) ..	..	..	670
Edge Hill ..	987	955	1,329
Edmonton ..	229	302	429
Gordonvale ..	1,131	1,077	1,007
Kuranda	222	135	179
Mossman	1,030	899	1,016
	12,596	12,722	15,729
Charleville	2,966	3,165	2,966
Branches—			
Cunnamulla ..	780	893	884
Quilpie	598	516	456
	4,344	4,574	4,306
Charters Towers ..	3,095	3,706	3,187
Dalby	4,603	3,554	3,028
Branches—			
Chinchilla ..	1,938	1,836	1,533
Miles	834	727	742
	7,375	6,117	5,303
Emerald	1,540	1,432	1,172
Branches—			
Alpha (to 1–4–51)	137	94	51
Blackall (to 1–4–51)	1,089	746	494
Blair Athol ..	251	223	250
Capella	199	128	112
Clermont	830	584	312
Jericho (to 1–4–51)	27	37	19
Springsure ..	792	642	450
	4,865	3,886	2,860
Gayndah	702	1,269	1,151
Branches—			
Eidsvold	182	141	188
Monto	969	1,150	1,029
Mulgeldie (opened 23–8–49) ..	..	154	59
Mundubbera ..	572	603	514
	2,425	3,317	2,941
Gladstone	4,170	4,130	4,886
Branches—			
Calliope	262	204	195
Miriam Vale (to 4–1–51) ..	378	382	220
Mt. Larcom ..	888	1,048	1,136
	5,698	5,764	6,437

Country—continued.

—	1948–49.	1949–50.	1950–51.
Goondiwindi	1,395	1,748	1,386
Branches—			
Dirranbandi ..	259	369	281
Inglewood	614	671	609
Texas	476	656	440
Yelarbon	444	424	264
	3,188	3,868	2,980
Gympie	6,164	5,816	6,078
Branches—			
Cooran	243	274	258
Imbil	355	247	224
Kandanga ..	140	209	256
Pomona	467	279	412
	7,369	6,825	7,228
Ingham	1,479	2,149	2,240
Branches—			
Cardwell	207	319	317
Halifax	548	707	822
	2,234	3,175	3,379
Innisfail	5,304	5,370	5,148
Branches—			
Babinda	1,060	1,192	1,047
El Arish	140	247	229
Mourilyan ..	227	180	174
Silkwood	328	209	179
South Johnstone ..	256	171	196
Tully	1,675	1,827	1,514
	8,990	9,196	8,487
Ipswich	12,884	12,774	12,123
Branches—			
Boonah	1,345	1,520	1,468
Esk	871	577	566
Laidley	1,101	918	836
Lowood	308	369	273
Rosewood ..	1,466	1,477	1,192
Somerset Dam ..	434	343	255
Toogoolawah ..	1,141	792	720
	19,550	18,770	17,433
Kingaroy	3,316	2,916	2,668
Branches—			
Kumbia	247	245	264
Nanango	995	653	546
Yarraman ..	440	252	150
	4,998	4,066	3,628
Longreach (from 2–4–51) ..	..	..	574
Branch—			
Blackall (from 2–4–51) ..	..	..	498
	..	..	1,072
Mackay	9,837	8,807	7,945
Branches—			
Calen (opened 19–6–51) ..	..	..	3
Finch Hatton ..	389	424	385
Koumala	450	297	297
Marian (opened 25–1–51) ..	..	..	137
North Mackay ..	1,488	1,758	1,493
Sarina	876	1,074	1,251
	13,040	12,360	11,511
Mareeba	3,949	3,252	2,809
Branches—			
Dimbulah ..	1,125	756	872
Mt. Mulligan ..	534	273	329
	5,608	4,281	4,010

Country—continued.

—	1948–49.	1949–50.	1950–51.
Maryborough ..	7,744	7,868	7,549
Branches—			
Biggenden ..	1,064	1,108	713
Childers	780	716	558
Howard	723	457	459
Pialba	731	714	544
	11,042	10,863	9,823
Mount Isa	1,199	2,317	3,053
Branches—			
Camooweal ..	16	107	219
Cloncurry (from 2–1–51) ..	..	..	227
	1,215	2,424	3,499
Mount Morgan (from 21–8–50) ..	..	..	2,477
Branches—			
Baree (opened 5–6–51) ..	..	..	28
Red Hill (opened 7–6–51) ..	..	..	6
	..	..	2,511
Murgon	1,368	1,619	1,642
Branches—			
Goomeri	789	706	672
Hivesville ..	105	115	99
Kilkivan	253	207	311
Proston	228	176	214
Wondai	1,225	934	1,125
	3,968	3,757	4,063
Nambour	4,774	4,631	4,737
Branches—			
Buderim	180	200	236
Caloundra ..	710	568	624
Cooroy	1,282	1,639	1,224
Eumundi	201	213	165
Landsborough ..	179	110	159
Maroochydore ..	449	591	525
Palmwoods ..	294	250	334
Yandina	290	305	235
	8,359	8,507	8,239
Railway Car—			
Winton	729	484	424
Cloncurry (to 1–1–51) ..	597	324	202
Dajarra (to Dec., 1950)	84	45	36
Hughenden ..	992	956	936
Julia Creek ..	410	432	500
Kajabbi (to Dec., 1950)	29	20	26
Maxwelton (from 19–3–51) ..	..	..	103
Mount Isa (to 10–1–49) ..	622	..	..
Richmond.. ..	421	277	396
	3,884	2,538	2,623

Country—continued.

—	1948-49.	1949-50.	1950-51.
Rockhampton ..	17,595	16,602	15,565
Branches—			
Mount Morgan (to 20–8–50) ..	1,911	1,995	288
North Rockhampton (opened 21–8–50) ..	..	..	1,175
Ogmore	445	245	176
St. Lawrence ..	361	300	465
Yeppoon	1,152	1,043	1,062
	21,464	20,185	18,731
Roma	2,603	2,462	2,321
Branches—			
Dulacca (opened 29–8–49) ..	..	127	103
Jackson (opened 5–9–49) ..	..	116	121
Mitchell	1,222	1,163	1,196
Surat (opened 21–9–49) ..	..	258	355
Wallumbilla ..	265	177	196
Yuleba	270	118	176
	4,360	4,421	4,468
Southport— ..	3,819	3,835	3,286
Branches—			
Beaudesert ..	1,399	1,655	1,689
Burleigh Heads ..	473	581	352
Coolangatta ..	2,665	2,794	2,567
	8,356	8,865	7,894
Toowoomba ..	11,433	10,359	9,983
Branches—			
Clifton	342	326	369
Crow's Nest ..	560	464	555
Forest Hill ..	157	107	146
Gatton	1,518	1,318	1,353
Harristown (opened 4–5–50) ..	..	58	507
Oakey	1,069	800	753
Pittsworth ..	834	904	962
	15,913	14,336	14,628
Townsville	13,462	13,167	12,530
Branches—			
Ayr	4,286	3,580	3,742
Giru	483	624	585
Home Hill ..	2,207	2,611	2,551
Ingham (to 15–8–48)	124	..	..
	20,562	19,982	19,408
Warwick	3,893	4,162	3,798
Branches—			
Allora	591	547	337
Killarney	509	346	414
Stanthorpe ..	2,378	2,368	2,112
	7,371	7,423	6,661

TOTAL ATTENDANCES OF INFANTS AND CHILDREN AND EXPECTANT MOTHERS.

1948–49.	1949–50.	1950–51.
392,010	382,227	361,977

TABLE L.

ANTE-NATAL CLINICS.

Centre.	New Cases.	Attend-ances.	New Cases.	Attend-ances.	New Cases.	Attend-ances.
	1948–49.		1949–50.		1950–51.	
Fortitude Valley	72	519	65	489	58	408
Woolloongabba	92	480	79	530	86	534
Caboolture	19	104	24	147	24	112
Herschell Street	16	46	7	32	15	30
Nundah	3	15	3	12	3	4
West End	12	24	7	32	6	21
	214	1,188	185	1,242	192	1,109

DIVISION OF SCHOOL HEALTH SERVICES.

P. R. Patrick, M.B., B.S. (Qld.), Chief Medical Officer.
E. W. Haenke, L.D.Q., Chief Inspector, School Dental Services.
E. O. Marks, M.B., Ch.B., B.A.O. (Dubl.), Part-time Ophthalmic Officer.

It is now forty years since a School Medical Branch of the Department of Public Instruction was established, with the appointment of a Medical Officer, a School Nurse, and a School Dentist. During the first year of operation, some 5,000 children were medically examined, mainly in the metropolitan area. During the past year, 74,665 children were medically examined; of these, 52,508 were in country schools.

Staff.

During 1950-51, the field staff consisted of:—Chief Medical Officer, 2 full-time Medical Officers, 1 part-time Medical Officer, 1 part-time Ophthalmologist, Chief Dental Inspector of Schools, 21 Dental Inspectors, 20 School Sisters.

Dr. E. L. Thomas was appointed to Townsville, while Dr. P. Jackson filled the vacancy in the metropolitan area until her resignation, when she was succeeded by Dr. R. F. Condon.

The dental and nursing staff position has also improved during the twelve months. Three new dentists have been appointed and all dental districts are now staffed. Some of these districts, however, are still very large, and it is hoped to reduce these areas when further appointments are made. The nursing staff has only one vacancy, and an appointment is pending.

Historical Survey.

During the forty years of existence, the Branch, which was transferred to the Department of Health and Home Affairs in 1937, has examined many children, mainly through its nurses. Notable events have been the reduction in trachoma amongst Western Queensland children and the building of four rail dental clinics.

Since 1911, the health of school children has improved considerably. A comparison of the number of children found defective shows a reduction from 31 per cent to 6.5 per cent. This reduction appears striking, but not all of it may be due to actual improvement in health. Some may be due to a difference of opinion as to what constitutes a defect in a child. This applies particularly to "tonsils and adenoids" notifications which comprised a greater percentage of the notifications in earlier days than at present. The policy today is not to consider a child defective if the tonsils are merely enlarged. There must be other evidence in the way of history and clinical findings.

The physique of school children has altered significantly in the period. A comparison of heights and weights of Brisbane children in 1911 and 1950 shows that the present day child is taller and heavier than children of the same age forty years ago by almost two years growth in the upper school age groups.

When an Ophthalmologist made a survey of Western Queensland for trachoma in 1912, one child in five suffered from the disease and many cases were severe. The incidence has dropped from 20 per cent. to 1.8 per cent. and now all cases are in the early stages.

In early days, School Health comprised mainly routine medical inspections. This medical inspection still rightly holds a very important place in a School Health scheme, but other phases are now being brought into operation. The chief of these is Health Education. Previously, health instruction consisted of infrequent lessons on subjects which to the child were rather dry and probably of little use in healthful living.

The new system of Health Education recently introduced into Queensland schools not only makes this instruction interesting, but it should also be a factor in improving the health of the child and the community. Although this subject is actually part of the normal school curriculum being taught by the regular class teacher, it is regarded as a very important aspect of School Health.

A question being asked in School Health circles today is whether the employment of medical practitioners to perform routine school medical inspections is not uneconomical as regards medical manpower. It has been suggested that the School Nurse can successfully conduct such examinations. Because of shortages of doctors, School Nurses have been used to a greater extent in Queensland than elsewhere in Australia and have done excellent work. It is believed, however, that a service without medical officers must be a limited one. Probably the most economical and practical service would be one in which the staff was based on a proportion of one medical officer to three or four nurses. The nurses can perform many of the routine screening examinations and help the medical officer in conducting complete medical examinations.

Routine Medical Examinations.—The number of children examined by the medical and nursing staff during 1950-51 was 74,665. In the metropolitan and Townsville areas, before parents were notified of defects found, children were examined by medical officers, who in addition, examined all children in the preparatory grades. In other areas, School Sisters carried out the medical examinations.

The total number of defects notified was 4,828 which constitutes 6 per cent. of all children examined. This does not include dental defects which, as mentioned elsewhere, are very high.

Children were referred to their own doctor or public hospital for defects found during the school medical examination. Six hundred and seventy-nine children in the metropolitan area and 1,879 in the country received treatment.

Examination of Teacher Trainees.

One hundred and seventy-six Student Teachers were examined on entrance to the Teachers' Training College. The Director of Tuberculosis carried out Mantoux Tests with radiological examination of positive reactors. For the second year, no case of tuberculosis was detected. One outstanding feature of the examination was the number of foot defects found amongst female students. Only one student, who was suffering from rheumatic cardiac disease, was rejected as medically unfit.

Communicable Diseases in Schools.

The incidence of communicable diseases amongst school children in 1950-51 was the highest for some years. Measles, mumps, scarlet fever and poliomyelitis occurred in greater numbers than in recent years. The number of diphtheria cases was less than in the previous year. The epidemic of measles which had been in full swing in the early months of 1950 in Brisbane continued in the capital city, and then spread to the country schools.

There are always a number of sporadic cases of scarlet fever reported but in the latter months of 1950 the incidence increased in Brisbane schools. The cases were mostly of a mild nature and in several instances were detected at routine examination when the children had slight rises of temperatures and a rash.

Poliomyelitis.—While general closure of schools was not advocated for this disease, three exceptions were made. All of these schools were in country districts (two in the Stanthorpe District and one north of Mackay) where contact of school children with each other would not occur if the school were closed. Perhaps these few closures served a useful purpose, but in one instance five cases of poliomyelitis occurred whilst the school was closed, and none occurred after it was opened.

Approximately half of the cases of poliomyelitis reported throughout the State in primary school children came from schools in which only one case occurred. In Brisbane primary schools visited by this Service, 51 cases occurred in 37 schools. (This figure does not include cases occurring in private schools.) In 26 of these schools, only one case was reported. The greatest number from any one school was four. In two instances only did a second case occur in the same class.

Diphtheria.—School Sisters assisted the Brisbane City Council in the Diphtheria Immunisation Campaign at Brisbane schools. The work was heavier than in previous years due to the introduction of booster doses to school children. Altogether 716 first immunisations were given to school children and preschool children, whilst 7,355 booster doses were given.

TABLE LI.

Comparison of Heights and Weights of Queensland Boys With Those of Other Countries.

Age.	Height in Inches. Weight in pounds.	Queensland 1950.	New South Wales Amended Table 1937.	Victoria 1937-38, Nutrition Survey—Good Suburban Homes.	America 1945.	County of London 1938.
5	H	44·10	43·6	44·8	44·1	43·0
	W	43·55	42·9	45·7	43·2	42·7
6	H	46·38	45·8	46·8	46·4	45·2
	W	47·72	47·4	50·2	47·8	47·2
7	H	48·43	48·1	49·0	48·5	47·4
	W	52·43	51·7	53·4	52·6	52·1
8	H	50·64	50·1	51·4	50·7	49·5
	W	58·30	57·2	59·4	58·3	57·5
9	H	52·54	52·1	53·0	52·7	51·5
	W	63·96	62·0	66·6	64·3	63·2
10	H	54·32	54·4	54·9	54·5	53·5
	W	68·87	68·3	74·0	70·4	69·3
11	H	56·04	55·6	56·6	56·3	55·3
	W	75·83	74·3	79·7	76·9	75·9
12	H	58·01	57·8	57·5	58·3	57·0
	W	83·69	81·0	84·5	84·9	83·0
13	H	60·27	60·0	60·5	60·7	58·7
	W	94·12	91·9	95·0	95·1	90·5
14	H	62·88	62·8	..	63·1	..
	W	105·72	104·4	..	106·9	..

New South Wales figures taken from Table supplied by Director, School Medical Services, N.S.W.
Victorian figures from Table supplied by Chief Medical Inspector of Schools, Victoria.
American figures are those published in the Textbook of Pediatrics, Mitchell-Nelson (4th. Edition 1945) adapted from O'Brien, R., Girshick, M.A., and Hunt, E. P., U.S. Dept. Agric. Pub. 366.
London figures are taken from Sir Frederick Menzies' London County Council Report of 1940.

Immunisation at Gatton College.

During the year, visits were paid to the Queensland Agricultural College at Gatton, and 175 new students were immunised against tetanus and typhoid fever. 90 booster doses for tetanus were given to old students.

Anthropometric Survey.

During the year, the anthropometric survey comparing the heights and weights of school children in different localities throughout the State was completed. The results show that the climate of tropical North Queensland has very little effect on the physique of school children

and supports the statements of previous workers that the white race can live in the tropics of this State without any serious deterioration.

Table LI, showing the heights and weights of Queensland schoolboys compared with those of other States and countries, demonstrates that the Queensland schoolboy compares favourably in height and weight with his counterpart in southern States and overseas. It is interesting to note, also, that the child entering school today is taller and heavier than the child of school entry age of 1911, and he continues to improve. In the last years of his primary schooling, he is, on the average, three inches taller and a stone heavier than his counterpart four decades ago.

Special Schools.

School for the Blind and Deaf.—The visit of Professor Ewing and his wife to this State was of great interest and benefit to all interested in deaf children. Medical men, teachers and parents were all impressed by these notable overseas workers and, as a result, there will follow an improvement in the detection, treatment, teaching and understanding of the deaf child.

During the year, the Commonwealth Acoustic Laboratory has been of great assistance in assessing deaf children found in the schools by school health officers. Children referred to the Laboratory are given audiometric tests and if necessary fitted with hearing aids. This Laboratory also supplied this Service with a portable audiometer which is at present being used in a country district. So far the percentage of children with some degree of hearing loss found in these schools has been 2·5 per cent. The number examined so far is not sufficient to decide whether this represents the true picture of deafness amongst school children. The Commonwealth Acoustic Laboratory has promised a further supply of these portable instruments and it is hoped that when these are available, an audiometric test will be part of the routine examination of every child in the State. When this eventuates, the proportion of deaf children will be gauged more accurately.

Opportunity Schools.

Throughout the year, there has been close liaison between School Health Services and the Research and Guidance Branch of the Department of Public Instruction in the examination of children already enrolled at Opportunity Schools and children found in ordinary schools who are not making normal educational progress. As a result, it is believed that the assessment of these children and the correction of any defects causing retardation have been placed on a better footing than previously.

Physical Education.

As in previous years, there has been close liaison between School Health Services and the Physical Education Branch of the Department of Public Instruction. As a result, two pieces of research work have been performed during the year. By combining ideas from both Departments, a measuring chair for the determination of basic measurements of school seating was designed and manufactured. Using this chair, the Physical Education staff measured children in all primary school grades, and when the results of this work are available, the standard sizes for the various grades will be known. The two branches combined to take height and weight measurements to be used as part of a Commonwealth-wide survey for the establishment of a grid similar to the Wetzel grid used in America.

Many school camps were cancelled because of the poliomyelitis epidemic. A School Nurse was in attendance at those held at Burleigh Heads and Yeppoon.

Visits to Schools in Remote Areas.

The policy of Queensland School Health Services places special attention to service in remote areas of the State. This applies particularly to the Dental Service.

During the year, all four rail dental clinics visited the Far Western areas, remote towns such as Birdsville, Camooweal and Georgetown being included in their itineraries.

Special attention was given by the Dentists to Correspondence School children, and though the number of 77 children treated may appear small, it is regarded as a very important section of the Dental Service. In June, 1951, Dr. Thomas, School Medical Officer at Townsville, commenced an itinerary which will embrace Normanton and Croydon schools.

Schools away from public transport were visited by officers using official vehicles as well as hired private transport.

Records show that during the year 1950-51, School Sisters hired transport to visit 271 schools and examined 6,905 children. Using the same means of conveyance, School Dentists visited 97 schools to treat 2,432 children. Most of these schools are one-teacher schools.

The Dental Section.

During the year, dentists inspected 34,136 children and treated 22,464 of these. Of the 34,136 inspected, 71 per cent. needed dental treatment. Of the remaining 29 per cent., a further 21 per cent. had already had previous dental treatment, leaving only 8 per cent. with naturally sound mouths. Of all children inspected 92 per cent. either needed dental treatment or have already received it.

Dental defects are by far the commonest defect found in school children to-day. There is need for more dental health education, improved oral hygiene on the part of the children themselves and more dentists to attend to defects already present and to prevent further caries.

Wilson Ophthalmic School Hostel.

The small number of children at the Wilston Ophthalmic School Hostel at the end of the year 1949-50 was increased by the admission of children found by Dr. E. O. Marks, the Part-time Ophthalmologist, during a tour of Western schools at the end of 1950.

Twenty-four new admissions resulted from this visit, and with three old cases, the number in the Hostel at present is 27.

There are still a few more children expected, but approximately one-third of the children recommended by Dr. Marks for admission have not been allowed by their parents to come to Brisbane for treatment.

The general health of the children has been good.

TABLE LII.

SUMMARY OF FINDINGS—SCHOOL HEALTH SERVICES—1950-1951.

Number of visits paid to Schools on Medical Inspection by School Sisters:—

Metropolitan	79
Country	708

Number of children examined by School Sisters—

Metropolitan	22,157
Country	52,508

Number of children whose parents were notified of child's defect—

Metropolitan	1,011
Country	3,817

Number of children known to have been treated by medical practitioners—

Metropolitan	679
Country	1,875

Number of homes visited by School Sisters—

Metropolitan	3
Country	311

Apparent physical defects discovered by metropolitan and country School Sisters—

Defect.	Metropolitan.	Country.	Total.
Defective Vision	305	1,067	1,372
Strabismus	11	142	153
Other Eye Defects	41	71	112
Deafness	20	158	178
Ear Discharge	8	34	42
Nasal Defects	10	639	649
Unhealthy Tonsils	245	1,873	2,118
Scabies	40	69	109
Impetigo	83	335	418
Tinea	3	41	44
Pediculosis	525	396	921
Groin Swelling	24	117	141
Scrotum Swelling	13	48	61
Spinal Defects	33	162	195
Other Defects	322	659	981

Number of cleanliness visits made by School Sisters to Schools—

Metropolitan	45
Country	2

Number of children examined—cleanliness visits by School Sisters—

Metropolitan	8,769
Country	101

Defects found on special cleanliness visits by Metropolitan and Country School Sisters—

Defect.	Metropolitan.	Country.	Total.
Impetigo	18	4	22
Pediculosis	411	10	421
Ringworm	..	..	..
Chicken Pox	..	..	..
Scabies	12	..	12
Tinea	1	..	1

Number of cases of Diphtheria in School Children—

Metropolitan	9
Country	34

Number of cases of Scarlet Fever in School Children—

Metropolitan	156
Country	88

Number of cases of Poliomyelitis in School Children—

Metropolitan	74
Country	282

Number of cases of Cerebro-Spinal Meningitis in School Children—

Metropolitan	1
Country	13

Number of cases of Tetanus in School Children—

Metropolitan	4
Country	12

Number of cases of Malaria in School Children—

Metropolitan	—
Country	1

Number of cases of Tuberculosis in School Children—

Metropolitan	1
Country	13

SCHOOL DENTAL SERVICE.

INSPECTION.

The subjoined table details the total findings revealed at the different inspections of the full staff of dental officers during the year:—

TABLE LIII.

Number of Children Examined.	Number Notified for Professional Attention.	Number of Children under Regular Dental Care.			Number with Sound Mouths.		Carious Teeth Saveable (Permanent).	Carious Teeth Unsaveable (Permanent).	Temporary Carious Teeth.	Permanent Teeth Lost or Extracted.	Six-year Molars Extracted.
		Clinic.	School Dental Officer.	Private Dentist.	Natural.	Operatively Restored.					
34,136	10,472	1,545	8,287	5,964	3,012	6,761	40,285	3,876	47,201	10,123	9,997

TABLE LIII.—*continued.*

Permanent Teeth Filled.	Temporary Teeth Filled.	State of Mouth.			Use of Tooth Brush.			Percentage of Children with Dirty Mouths.	Total Number of Defective Permanent Teeth.	Average Number of Defective Permanent Teeth per Child.
		*A.	*B.	*C.	†A.	†B.	†C.			
45,296	10,857	9,391	21,873	2,872	11,412	18,523	4,201	8	44,161	1·2

State of Mouth—
*A.—Good Standard of Mouth Health.
*B.—Fair Standard of Mouth Health.
*C.—Bad Standard of Mouth Health.

Use of Tooth Brush—
†A.—With a *full* measure of effectiveness.
†B.—With a *partial* measure of effectiveness.
†C.—With no effectiveness.

Clinical Phase of Service.

Tabulated hereunder are particulars of the total treatment resulting from the application of the clinical activities associated with the Department's dental service for children for the period under review. The summary does not include the treatment performed throughout the State by Hospital Board Dental Clinics.

Number of Children Treated.	Number of Extractions. Performed.	Number of Fillings Inserted.	Number of Other Treatments.
22,464	18,044	70,156	29,009

Total Treatment Performed for Correspondence Pupils for 1950:

Number of Correspondence Children Treated for year.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
77	52	293	14

WILSON OPHTHALMIC SCHOOL HOSTEL.

Table LIV gives a summary of the statistics for the Wilson Ophthalmic School Hostel for the year 1950-51.

TABLE LIV.

—	Males.	Females.	Total.
Population at 1st July, 1950	6	4	10
Admissions	12	13	25
Discharges	6	2	8
Population at 30th June, 1951	12	15	27

With the exception of one child admitted from Peak Crossing, but who had, until recently, been living at Cobbadamana near Inglewood, and who had an acute trachoma with corneal involvement, the admissions have all been cases of chronic granular lids without any acute reaction or corneal involvement.

Aureomycin has lately been strongly advocated by writers as a wonder-worker in the treatment of trachoma. During the year it was tried on several of the children with the severer granular condition of the lids, treating one eye only in order to compare the result with the other eye treated by ordinary methods. In some of the children so treated, the aureomycin-treated eye did seem to show a definite improvement over the other eye, but in most cases, there was nothing to choose between them. Aureomycin is certainly not the wonder-worker claimed, in the class of trachoma case seen in Queensland. The numbers are too few for definite opinion, but it is intended to try the aureomycin again in a similar manner, and, if results are still favourable, to consider making it a routine treatment.

During the year 1949-50 the admissions to the Hostel through the routine channels of recommendation by local practitioners in Western Queensland were only four. This low rate of admission, coupled with the shorter stay in the Hostel due to the lessened severity of the disease, had reduced the bed state at the end of June 1950 to ten, and many of these children were nearly cured.

To ascertain the present position in regard to trachoma in the West, and to select suitable cases where such occurred for admission to the Hostel, another survey of the Western Queensland schools was carried out. The Part-time Ophthalmic Officer left Brisbane on 16th September and returned on 28th November. Though greatly hindered by rain and road conditions, only five small schools had to be omitted as inaccessible at the time he was in the vicinity.

The survey showed a continued diminution in the incidence of trachoma as well as in the severity of cases which do occur. In 5,941 children examined in 70 schools and wayside places, 111 children were diagnosed as having trachoma—approximately 1.8 per cent. The incidence varies greatly from district to district, and even from school to school. Some schools are quite free of the disease. The greatest incidence is in the Cloncurry district and to the north and west of Cloncurry where, if the exceptional Mt. Isa Mines school of 304 children is excluded, the incidence is over 7 per cent. in 792 children.

The Mt. Isa Mines school of 304 children is trachoma-free but is exceptional because most of them are recent comers to the West and they are living under exceptionally favourable conditions. Compared with the Cloncurry district, the Northwest, east of Cloncurry, has an incidence of 1.0 per cent., the Central West 0.7 per cent., and the Southwest 1.3 per cent. The incidence is markedly greater amongst the coloured children, no doubt because of their usually lower hygienic standards, and poorer housing amenities. Of 49 children whose eye condition was considered suitable for admission to the Hostel, only 17 were white, the remainder having dark blood in varying degrees.

DIVISION OF MENTAL HYGIENE.

B. F. R. Stafford, M.B., B.S. (Melb.), Director of Mental Hygiene.

The central office of this Division has now been functioning for twelve months, and in consequence the Mental Hygiene Service is developing as a more defined entity.

It is planned that Mental Hygiene in Queensland shall develop on a regional system so that ultimately each region will have all specialised phases of mental hygiene services. In order to achieve a progressively advancing clinical service, this Division has recommended that priority be given to projects that, in addition to providing more accommodation, also give added services and clinical facilities.

It is realised that it is not possible to complete an overall plan in the immediate future, but that long distance planning is essential to ensure orderly and economical development.

The regions envisaged are—

(i.) Metropolitan and Moreton;

(ii.) Darling Downs and South Western Queensland;

(iii.) Fitzroy and Central Queensland;

(iv.) Burdekin, Tablelands, and North-western Queensland.

A unique event occurred, in the annals of Mental Hygiene, when the officers in charge of the Mental Hygiene Divisions of each of the States of the Commonwealth met in Melbourne on the 23rd October, 1950.

Two major problems appeared in the Directors' discussions, and were experienced with similar intensity in each State—firstly, the serious shortage of female nurses (especially nurses with experience); and secondly, accommodation for patients.

There is a great and urgent need to bring mental hygiene services closer to the community, but this implies a greater clinical orientation throughout the service. In mental hygiene therapies the final test of their efficiency is a social readjustment of the individual that is acceptable to the community, which means that therapies must have a large element of personal and individual application.

On every hand it is found that clinical activities are handicapped by the paucity of trained and experienced nurses.

Each State appears to be adopting more or less similar palliative measures such as—

(1) Improving industrial conditions of the nurses, enhanced remuneration, employment of men and housemaids to reduce the amount of domestic chores previously included in nursing duties.

(2) Modernising facilities for care and treatment, exploiting modern mechanical devices and other labour-saving methods.

(3) Employment of specialists and the expansion of special activities. Each specialist occupies a certain number of patients and not only reduces the supervisory duties, but stimulates interest by both patient and staff.

(4) Employment of assistants and New Australians. These officers are contributing very valuable service indeed. However, owing to limited experience, language difficulties and at times more abstruse psychological factors such as racial traditions, there is a noticeable tendency to emphasise the custodial aspects of hospital treatment. This is to be expected as the supervisory elements of nursing are more within their capacity than the difficult aspects of psychiatric nursing.

The other outstanding problem affecting all the States is the need for more accommodation. On analysis it was found that each State was confronted with an increasing problem, the care of the aged. Mental Hospitals were admitting and caring for ever larger numbers of patients whose affliction was senility. They were people who had lived as useful and productive units of society until sixty and more years of age, and who until aged were capable of filling important posts in every and any sphere of communal activity.

The Directors in Melbourne felt that these patients constituted a very special class and could be more appropriately and in time more skilfully cared for in a special institution.

They are folk who are not able to care for themselves or to assume full legal responsibilities so that a Home has to be devised whereby the law would provide sufficient protection for their person and their assets.

On the recommendation of the Queensland Mental Hygiene Service it was approved that a special Eventide Home be built to accommodate 500 patients in the first instance.

This Home would need to cater for males and females (on current figures approximately 25 per cent. more female accommodation).

There are three chief classes of senile patients. These classes are of approximate equal numbers—

(1) The sick and infirm requiring hospital type of care;

(2) The restless and relatively active patient requiring a considerable amount of supervision for proper care;

(3) Others, who though incapable of maintaining themselves apart from some care and control, are able to enjoy amenities such as gardens, libraries, concerts, picture shows and such like entertainments.

Two other problems were discussed at some length, viz.: The proper provision for the voluntary patient and for the patient who seeks treatment before he has developed obvious mental sickness. This should prove a class of people who would respond to treatment. There is no special hospital for these people in Queensland as yet. In Queensland the problem is being approached by establishing psychiatric services at various base General Hospitals and by the establishment of a Psychiatric Clinic in Brisbane.

During the next year it is planned to convert as many certified patients to voluntary patient status as possible. It is considered that such a plan could provide a rehabilitating phase of treatment that is so essential prior to discharge.

The efficient care of Backward Persons is a serious question. At the present time a considerable amount of ground work is being undertaken by the Department of Public Instruction, the University and the Psychiatric Clinic.

It is expected that the co-ordination of these activities will result in a clear picture of what is needed. In this particular problem much effort can be misdirected unless a specific and unified plan is evolved.

The policy of the Department in supporting the institution of postgraduate studies in Psychological Medicine has already been justified in the number of younger medical practitioners applying for appointment, and these men have been very suitable persons for such a speciality as Psychiatry.

The appointment of a third medical officer at the Toowoomba Mental Hospital has enabled a wider field of clinical work to be undertaken there.

Mr. J. B. McLean, Part-time Dentist to the Toowoomba Mental Hospital, has retired and we extend our thanks and best wishes to him.

The ex-service patients in all the hospitals have benefited by the continued good offices of the Red Cross Society, and by the special entertainments by the R.S.S.A.I.L.A. and organised by the local sub-branches of this Association.

The C.W.A. organises entertainments and visits folk whose homes may be many miles away, thus probably giving distant relatives a greater sense of security in the welfare of their sick ones.

Regular dances, picture shows and concerts are provided. Many societies and people contribute towards the added entertainment and welfare of the patients, and to them thanks and appreciation are extended.

The religious interests of all patients are cared for by visits from the clergy of the various denominations, and religious services are held regularly.

The Official Visitors appointed to the mental hospitals have made regular inspections.

An overall survey of patients in Mental Hospitals at 30th June, 1951, is shown in the appended statistical tables at the end of this report.

BRISBANE MENTAL HOSPITAL.

The Medical Superintendent (Dr. C. R. Boyce) advises that during the year 386 male and 374 female patients received treatment. Of these 164 were diagnosed as senile or presenile psychoses.

Occupational therapy is being reorganised and from a central group it is hoped that this treatment will develop in every ward so that all patients in the hospital will have the opportunity to benefit by it.

Recreational therapy and physical training has been commenced on an organised basis. At present instructors are drawn from the nursing staff, and patients are selected and their routine prescribed in close co-operation with the medical staff.

Although handicapped by grave shortages of trained nurses the active treatments have continued. It is more than probable that the improvement in social behaviour, which is usually an immediate response to active treatment, has made it possible to care for the patients in the high level of efficiency that prevails.

Electric therapy, insulin therapy, and therapies allied to narcosis treatments are widely used. With an efficient medical staff much more psychotherapy has been possible, and it is hoped to exploit this treatment to a greater extent.

This hospital maintains a high standard in the sphere of physical medicine. Its well-equipped hospital ward with operating theatre, pathological laboratory, X-ray department and dental department, assisted by visiting specialists in Surgery, Medicine, Gynaecology, E.N.T., Neurology and Radiology, enable bodily complaints to be well cared for.

Serious anxiety has been occasioned by difficult and variable supplies. Articles are available for a time and then become unobtainable. Increased costs have made the task of catering formidable both as to supply, delivery and service.

Work has begun on a Recreation Area for female patients, and on almost any day scores of patients may be seen picnicking under the shady trees of this area.

The Hospital Canteen and the Hairdressing Salon continue to be widely patronised and fill a real need in hospital life.

WACOL REPATRIATION PAVILION.

This institution is becoming more picturesque as the gardens, foliage, plants and lawns attain maturity. Anzac Day, 1951, was notable because a most impressive service was held. It is intended to continue to hold these services and they are likely to become a feature amongst Anzac Day Commemorations. The flagpole used in this year's service was given by Mr. E. Newton and his thoughtfulness is appreciated.

Approximately 50 per cent. of the patients are diggers from World War I and they are all becoming elderly and inclined to enjoy quietude rather than active diversions. Recreational activities are being developed, and occupational and vocational therapies play an important role in treatment.

The cafeteria continues to prove a very successful venture in hospital catering and the principle is likely to be more widely adopted throughout our institutions.

All patients are well provided for by the Pavilion Canteen, 'bus trips to the seaside, competitive cricket and tennis games with teams from Greenslopes Repatriation General Hospital and other institutions. Indoor games, regular concerts and picture shows provide further entertainment.

This institution is visited regularly by officers of the Repatriation Commission, and visited frequently by officials from the office of the Deputy Commissioner of Repatriation for Queensland.

TOOWOOMBA MENTAL HOSPITAL.

The Medical Superintendent (Dr. J. B. Henderson) advises that a total of 1,422 patients was under care during the past year comprising 729 males and 693 females. The average number daily resident was 612 males and 609 females making a total of 1,221 patients.

There is some gratification in knowing that of the 121 patients admitted during this year there were 42 voluntary patients (23 males, 19 females) or 35 per cent. of admissions.

It is hoped that in the near future special units for voluntary patients will be built.

The shortage of female staff is very acute and handicaps all efforts to expand treatment and introduce new therapies.

The appointment of a third medical officer in January was welcomed. The services of the consulting physician and surgeon have been required on a number of occasions.

An advance in dental treatment has been instituted by the appointment of a full-time dentist to the hospital and by the formation of an up-to-date dental unit which is being housed in the hospital block.

The chiropodist continues to give valued service.

Hopes are entertained for the installation of an X-ray unit during the new financial year. This will eliminate the inconvenience of transporting patients for X-ray to the Toowoomba General Hospital and at the same time relieve the load on that hospital's unit. Systematic pulmonary radiography of patients and nursing applicants can then be instituted.

The Psychiatric Clinic at the Toowoomba General Hospital continues to fulfill a useful purpose and has increased to such an extent that visits are also made to it by the Deputy Medical Superintendent. Efforts are being made to increase the potentialities of this Clinic by acquiring a number of beds in the hospital itself for patients requiring psychological treatment, but the limitation of the number of beds available for the general patients has precluded this improvement so far.

With a well-equipped kitchen and a capable staff the standard of palatable and varied foods has been well maintained and the patients lack nothing in this regard.

The Jersey dairy herd has provided 44,710 gallons of milk during the year.

There is also a gradual improvement in the patients' attire, though this has not yet reached a desirable standard. The type of garment has improved but destructiveness on the patients' part and inadequate and irregular supply on the other are the factors mostly responsible.

Special occasions such as the Toowoomba Show and Christmas provide visits to town for those patients capable of appreciating these outings and at the same time conforming to the accepted social standards. More privileged patients pay regular visits to town on parole.

During the respective seasons club teams provide cricket and football matches during the week-ends and on holidays whilst the patients also have games between themselves.

There has been an increase in the number of children resident in the institution. Use is being made of the school associated with the neighbouring Epileptic Home to have four or five attend regularly. It is hoped to provide a well-equipped playground.

The turnover of the canteen continually improves and is obvious evidence of its popularity with the patients. The canteen provides a most comprehensive assortment of delicacies and other foodstuffs and is very efficiently run by the staff.

As well as continuous internal improvements it is also aimed to further beautify the ward gardens and the institution grounds, the completion of the bitumenising of the roadways being a big step towards this latter aim.

A well constructed building to harbour most of the artisan staff is nearing completion.

The Public Works Department has completed painting a fair proportion of the external sections of the hospital buildings.

The most common types of mental sicknesses suffered by the patients admitted were the schizophrenic reaction types which accounted for 27 cases; senile cases comprised 9 males and 8 females, a total of 17 patients.

There were 22 male and 13 female patients discharged recovered during the twelve months, the recovery rate based on the number of patients admitted being 28·9 per cent.

There was a total of 71 deaths during the year of whom 9 were over 80 years and 1 over 90 years of age. Coronial inquiries were held on the deaths of two female patients, one suicidal and one accidental.

No births occurred in the hospital during the past twelve months.

IPSWICH MENTAL HOSPITAL.

The Medical Superintendent (Dr. W. P. H. Parker) advises that the general health of the patients during the twelve months has been satisfactory and there were no serious epidemics. No magisterial inquiries were held during the year.

Patients have been entertained with dances, movies, 'bus trips and concert parties. Daily newspapers and periodicals are provided to the various wards throughout the hospital. In addition, 'bus trips and concerts were provided as part of the Hospital Jubilee Celebrations.

The visiting dentist attends to the patients each fortnight and the Chiropodist also visits fortnightly.

The standard of food is being maintained with a mixed nutritious diet.

A shortage of female nurses still exists, but the employment of male assistants in female wards has relieved the situation.

During the year new machinery was installed in the laundry and the Department of Local Government completed the emergency water supply from the Bremer River.

Leonard Mixing Valves have been installed in each of the ward bathrooms and this should safeguard the bathing of patients and minimise the chances of scalding.

A permanent housekeeper was appointed during the year to ensure efficient running of the Nurses' Quarters and Kitchen.

During the year all child patients were given psychological examinations. The majority proved untestable. Of the remainder three have been transferred to the Toowoomba Mental Hospital where they might benefit from attending the school at the Epileptic Home: arrangements have been made to transfer one spastic girl to the Montrose Home for Crippled Children and a deaf boy to the Deaf School: and yet another to the Brisbane Mental Hospital for further diagnosis. One child, though probably educable, was left in the hospital because of behaviour difficulties.

CHARTERS TOWERS MENTAL HOSPITAL.

The construction is progressing at a satisfactory rate and the buildings will be up to expectations in respect to design and workmanship.

Supply problems have occupied a prominent place and a concrete brickmaking plant has had to be installed. This turns out some 1,400 bricks per day.

The Farm Bailiff has been occupying a residence built for him since November, 1950, and is able to give closer attention to the development of the grazing areas, &c. Through the co-operation of the Manager of the Eventide Home, regular reports are received so that up-to-date information is always to hand.

Water supply is causing some technical difficulties which must be solved. Institutions of this type need a generous supply of water. Conservation of domestic water wastes will be essential if trees and gardens are to flourish.

As part of the Northern Regional Service the psychiatric unit of the Townsville General Hospital plays a very important role. Dr. A. Ellis resigned and his place was taken by Dr. W. D. Richards, thus ensuring that this exceptionally good public service was continued and at a high level of efficiency.

EPILEPTIC HOME.

The Acting Superintendent advises that there was a total of 114 patients under treatment at the Epileptic Home during the year ended 30th June, 1951, comprising 53 males and 61 females. Of this number there were 9 males and 6 females under 15 years of age.

Four patients died during the year, 1 male and 3 females, their ages ranging from 27 to 79 years.

Nine patients were admitted, 4 males and 5 females. Two of these were re-admitted after an absence of twelve months.

The general health of the patients has been good. The teeth of many need attention, and it is hoped with the permanent appointment of a full-time dentist at the Toowoomba Mental Hospital that it will not be long before this matter is attended to. An examination of the teeth of all patients has already been made. The institution at the present time is full, and it is hoped that in the future when new buildings are under consideration, an addition to this Institution will be considered. This would be very welcome so that the children can be segregated which is very important in an Institution of this kind.

The school continues to do very good work. There are 25 pupils on the roll. It strives to interest its pupils in some way and succeeds in doing so with great benefit as well as pleasure to all. The teacher is to be commended for her sincere and keen devotion to duty, and for the valuable service she is rendering to her pupils.

There are 15 acres of land under cultivation. During the year a large quantity of vegetables was grown, and but for adverse weather conditions much larger crops would have resulted. This is a large area to be tilled considering the labour available to assist in this work. It might appear at a glance that there would be a big pool of labour to draw from, but the percentage of those physically capable is very small. A matter that will have to be considered in the near future is irrigation. A large part of the farming area is without water and an irrigation plant would be of great value. When the necessary piping becomes available, it is hoped to have a plant installed. It is suggested

that consideration be given to the appointment of a man to take charge of the farming and gardening section of the Home. This would be a profitable investment, particularly at the present time when shortages and high costs are the order of the day. Any surplus production from this source could be shared with other Government Institutions. Sufficient eggs were produced during the year to maintain the Home.

Occupational Therapy classes were held for a portion of the year. The handicraft section of the Country Women's Association attended, and progress was shown by the patients in the making of various articles.

Recreation for the patients forms a very important part of the work of the Home. The evenings are spent by a good many in playing cards, knitting and table tennis, &c. Dancing is also indulged in once a week amongst the patients themselves; once a month a dance band attends, and patients' friends and visitors spend quite a happy evening. Pictures are shown weekly. Outings are arranged and very much enjoyed by all. On Jubilee Day 'buses were hired and all patients went on a tour of Toowomba and district. For some it was the first time they had been outside the Home for many years. Various concert parties attended during the year, much to the delight and pleasure of the patients.

Ministers from the various Churches hold services regularly.

The visiting Medical Officer attends regularly and his kindness and assistance to patients is very much appreciated.

The Matron and staff are doing a very good job, at times under very trying circumstances.

The ambition of all is service to help these unfortunate people who cannot help themselves.

PSYCHIATRIC CLINIC.

Psychologist: J. C. Winship, M.A.

The past year has been one of consolidation of the main lines of development laid down in previous years—Psychiatry, Child Guidance, Speech Therapy, with Psychology playing its part in all three.

The teaching and experience available at the Clinic has been invaluable to candidates in the post-graduate studies associated with the Diploma of Psychological Medicine. At the same time the medical officers who visit regularly from the Brisbane Mental Hospital have extended the psychiatric services to many more patients than would otherwise be possible.

The tendency throughout the past year has been to demarcate the activities of the Clinic more clearly, especially developing Child guidance as a distinct service.

A second speech therapist was appointed in January and, although 111 cases were given therapy this year as against 74 last year, the waiting list is 56. This is satisfactory from the point of view that the need exists. A number of these cases require extensive investigations to establish the degree of intracranial pathology, and then prolonged speech therapy. A careful numerical record is being kept of these cases as it is possible they could be handled more effectively as a special day school class.

There has been a notable increase in the number of borderline backward children—57 as against 25 last year. These are children for whom the Clinic can do no more than arrive at an accurate assessment. They need the persistent routine training of occupational day centres and/or special Residential Schools.

There is much satisfaction in knowing that the University will shortly organise a remedial teaching centre within the Faculty of Education. Though the figures given show only eight children as being educationally backward, in actual fact many others, especially those with speech defects and many listed as behaviour problems, are retarded to a greater or lesser degree. Remedial teaching, in itself a therapy, will either make unnecessary or considerably shorten any other treatment in many cases

In view of the decision to standardise the psychiatric classification in illnesses within the Department by adopting the International Classification, some revision of the last year's table was necessary to bring it into line. Another point is that the number of patients who had been previously in the Brisbane Mental Hospital has been shown separately and not subsumed under the general table. Though in some instances these patients are seen only for the signing of forms, &c., many are given supportive therapy and thus their adjustment in the community is consolidated. Whilst either or both of these purposes is a most valuable service to the public, and one to be fostered, in a sense they are not truly Clinic cases and are better shown separately.

Finally it is most satisfying to know that the reconstruction of the Clinic accommodation has been started. One cannot underestimate the effect on patients and parents of the impression given by the physical surroundings.

TABLE LV.

QUEENSLAND MENTAL HOSPITALS.

SHOWING ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS, DURING THE YEAR ENDED 30TH JUNE, 1951.

	Brisbane Mental Hospital.						Toowoomba Mental Hospital.						Ipswich Mental Hospital.						Totals.					
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
On the Books of the Hospitals on 1st July, 1950	..	..	..	**1,145**	**1,138**	**2,283**	..	..	..	**611**	**612**	**1,223**	..	..	..	**356**	**179**	**535**	..	..	..	**2,112**	**1,929**	**4,041**
Admitted for the first time	324	299	623				51	41	92				13	26	39				388	366	754			
Readmitted	62	75	137				12	17	29				..	1	1				74	93	167			
				386	374	760				63	58	121				13	27	40				462	459	921
Transferred from Brisbane	..	..	..				54	20	74				13	4	17									
Transferred from Toowoomba	12	6	18				..	..	..				1	..	1									
Transferred from Ipswich	7	2	9				1	3	4				..	..	..									
				19	8	27				55	23	78				14	4	18						
***Total number under care during the year**				**1,550**	**1,520**	**3,070**				**729**	**693**	**1,422**				**383**	**210**	**593**						
Discharged—																								
Recovered	163	163	326				22	12	34				1	1	2				186	176	362			
Section 49	21	23	44				2	1	3				..	..	..				23	24	47			
Relieved	5	6	11				19	15	34				2	2	4				26	23	49			
Not Improved	6	3	9				3	..	3				1	3	4				10	6	16			
Voluntarily left	10	12	22				..	..	..				..	..	..				10	12	22			
Died	94	84	178				34	37	71				23	13	36				151	134	285			
Total Number Discharged and Died				**299**	**291**	**590**				**80**	**65**	**145**				**27**	**19**	**46**				**406**	**375**	**781**
Transferred to Brisbane	..	..	..				12	6	18				7	2	9									
Transferred to Toowoomba	54	20	74				..	..	..				1	3	4									
Transferred to Ipswich	13	4	17				1	..	1				..	..	..									
				67	24	91				13	6	19				8	5	13						
Total number discharged, died, &c., during year				366	315	681				93	71	164				35	24	59						
Remaining on Books of Hospitals on 30th June, 1951				**1,184**	**1,205**	**2,389**				**636**	**622**	**1,258**				**348**	**186**	**534**				**2,168**	**2,013**	**4,181**
Average Number Daily Resident				**1,117**	**1,082**	**2,199**				**612**	**609**	**1,221**				**347**	**180**	**527**				**2,076**	**1,871**	**3,947**
Number on leave of absence on 30th June, 1951				69	104	173				5	10	15				7	3	10				81	117	198
Proportion of Mentally Sick to each 1,000 of population as at 31st December, 1950																						3·41	3·38	3·41
Proportion of Admissions per 10,000 of population for year ended 31st December, 1950																						7·58	7·89	7·73

* These totals include interhospital transfers.

TABLE LVI.

ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT DURING THE YEAR ENDED 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Total Admissions	386	374	760	63	58	121	13	27	40	462	459	921
Discharged—												
Recovered	193	195	388	24	13	37	1	1	2	218	209	427
Relieved	6	9	15	19	15	34	2	2	4	27	26	53
Not Improved	6	3	9	3	..	3	1	3	4	10	6	16
Died	94	84	178	34	37	71	23	13	36	151	134	285
Average Number Daily Resident	1,117	1,082	2,199	612	609	1,221	347	180	527	2,076	1,871	3,947
Percentage of Recoveries on Admissions	50·00	52·14	51·05	38·10	22·41	30·58	7·7	3·85	5·00	47·19	45·53	46·38
Percentage of Patients Relieved on Admissions	1·55	2·41	1·97	30·16	25·86	28·10	15·39	7·69	10·00	5·85	5·66	5·75
Percentage of Deaths on Average Number Resident	8·41	7·76	8·09	5·5	6·08	5·81	6·63	7·20	6·83	7·22	7·16	7·22

TABLE LVII.

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDING 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
1. AFFECTIVE REACTION TYPES—												
(*a*) Manic Depressive Psychosis	19	24	43	3	..	3	..	..	..	22	24	46
(*b*) Acute Mania	6	1	7	1	3	4	..	..	..	7	4	11
Mania	16	21	37	1	2	3	..	..	..	17	23	40
(*c*) Agitated Depression	..	3	3	..	..	..	..	..	..	..	3	3
Depression	18	15	33	5	7	12	..	..	..	23	22	45
Reactive Depression	3	4	7	..	..	..	..	..	..	3	4	7
Recurrent Depression	1	3	4	..	..	..	..	..	..	1	3	4
(*d*) Dementia (Manic Depressive)	1	..	1	..	..	..	..	..	..	1	..	1
(*e*) Involutional Depression	3	18	21	1	2	3	..	..	..	4	20	24
Involutional Psychosis	..	9	9	..	..	..	..	..	..	..	9	9
2. SCHIZOPHRENIC REACTION TYPES—												
(*a*) Schizoid Personality	3	..	3	..	..	..	..	..	..	3	..	3
Schizophrenia	109	95	204	12	10	22	..	..	..	121	105	226
Schizophrenia Depression	1	..	1	..	..	..	..	..	..	1	..	1
(*b*) Paraphrenia	25	26	51	1	4	5	..	..	..	26	30	56
3. ORGANIC REACTION TYPES—												
(*a*) Organic Dementia	1	2	3	..	..	..	..	..	..	1	2	3
Organic Dementia (Huntingtons' Chorea)	1	..	1	..	..	..	..	..	..	1	..	1
Organic Psychosis	6	2	8	..	..	..	..	..	..	6	2	8
(*b*) Toxins—												
Alcoholic Acute Hallucinosis	..	..	..	4	..	4	..	..	..	4	..	4
Alcoholic Psychosis	36	4	40	9	4	13	..	..	..	45	8	53
Alcoholic Psychosis (Korsakov's)	5	1	6	..	..	..	..	..	..	5	1	6
Confusional Psychosis	..	3	3	..	..	..	..	..	..	..	3	3
Dementia Paralytica	4	3	7	..	..	..	..	..	..	4	3	7
(*c*) Degenerative Brain Changes—												
Alzheimers Disease	1	1	2	..	..	..	..	..	..	1	1	2
Arteriosclerotic Dementia	8	6	14	..	..	..	..	..	..	8	6	14
Arteriosclerotic Psychosis	6	8	14	4	5	9	..	..	..	10	13	23
Desseminated Sclerosis	..	..	..	1	..	1	..	..	..	1	..	1
Presenile Dementia	1	1	2	..	..	..	..	..	..	1	1	2
Presenile Psychosis	4	..	4	..	..	..	..	..	..	4	..	4
Senile Dementia	32	46	78	7	4	11	..	..	..	39	50	89
Senile Psychosis	25	29	54	1	5	6	..	..	..	26	34	60
4. EPILEPTIC REACTION TYPES—												
Epileptic Psychosis	10	10	20	1	1	2	..	..	..	11	11	22
5. PSYCHONEUROTIC REACTION TYPES—												
Psychoneurosis	4	8	12	..	..	..	..	..	..	4	8	12
Psychoneurotic Anxiety State	..	..	..	5	6	11	..	..	..	5	6	11
6. MENTAL DEFICIENCY—												
(*a*) Mental Deficiency	18	24	42	3	2	5	..	1	1	21	27	48
Mental Deficiency (Mongol)	3	..	3	..	..	..	5	9	14	8	9	17
Mental Deficiency (Moron)	..	..	..	2	1	3	..	..	..	2	1	3
Mental Deficiency (with Epilepsy)	..	..	..	..	..	..	1	2	3	1	2	3
Mental Deficiency (with Schizophrenia)	3	2	5	..	..	..	..	..	..	3	2	5
(*b*) Idiocy	..	..	..	..	1	1	2	2	4	2	3	5
(*c*) Imbecility	..	..	..	..	..	..	5	13	18	5	13	18
(*d*) Moral Deficiency	10	2	12	..	..	..	..	..	..	10	2	12
(*e*) Backwardness	..	..	..	..	1	1	..	..	..	..	1	1
7. TRAUMATIC PSYCHOSIS	1	..	1	..	..	..	..	..	..	1	..	1
8. ADDICTION—												
Alcoholism	..	..	..	2	..	2	..	..	..	2	..	2
9. NOT DIAGNOSED	2	3	5	..	..	..	..	..	..	2	3	5
Totals	386	374	760	63	58	121	13	27	40	462	459	921

TABLE LVIII.

CAUSES OF DEATHS WHICH OCCURRED DURING PERIOD ENDING 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Metnal Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.	Males.	Fe-males.	Totals.
GENERAL DISEASES—												
Acute Haemorrhage Pancreatitis	1	..	1	..	..	..	..	..	..	1	..	1
Asphyxia	..	..	..	..	1	1	..	..	..	..	1	1
Carcinoma of Bladder	1	..	1	..	..	..	..	..	..	1	..	1
Cellutitis of Back	..	1	1	..	..	..	..	..	..	..	1	1
Chronic Alcoholism	1	..	1	..	..	..	..	..	..	1	..	1
Diabetes	1	..	1	..	1	1	..	..	..	1	1	2
Epithelioma of Face	..	..	..	1	..	1	..	..	..	1	..	1
Epithelioma of Leg	1	..	1	..	..	..	..	..	..	1	..	1
Gangrene of Leg	..	1	1	..	..	..	..	..	..	..	1	1
Malnutrition	..	..	..	..	..	..	1	..	1	1	..	1
Multiplo Carcinoma of Both Lungs	..	1	1	..	..	..	..	..	..	..	1	1
Osteo Sarcoma of Femur	1	..	1	..	..	..	..	..	..	1	..	1
Second Degree Burns	..	..	..	..	1	1	..	..	..	..	1	1
DISEASES OF NERVOUS SYSTEM—												
Acute Mania	1	..	1	..	..	..	..	..	..	1	..	1
Alzheimers Disease	1	..	1	..	..	..	..	..	..	1	..	1
Cerebellar Haemorrhage	..	..	..	1	..	1	..	..	..	1	..	1
Cerebral Arteriosclerosis	3	4	7	..	..	..	..	..	..	3	4	7
Cerebral Degeneration	4	6	10	3	1	4	..	..	..	7	7	14
Cerebral Haemorrhage	5	3	8	1	2	3	1	..	1	7	5	12
Cerebral Thrombosis	5	1	6	2	2	4	..	1	1	7	4	11
Dementia Paralytica	..	1	1	1	..	1	..	..	..	1	1	2
Meningitis	..	..	..	..	..	..	1	..	1	1	..	1
Senility	2	..	2	..	1	1	..	..	..	2	1	3
Shock (Fractured Neck, R. Femur)	..	1	1	..	..	..	..	..	..	..	1	1
Status Epilepticus	1	2	3	..	..	..	..	1	1	1	3	4
Subdural Haematoma	..	..	..	..	1	1	..	..	..	..	1	1
DISEASES OF CIRCULATORY SYSTEM—												
Artheriosclerosis	2	3	5	1	1	2	..	..	..	3	4	7
Cardiac Asthenia	1	..	1	..	..	..	..	..	..	1	..	1
Cardiac Degeneration	..	1	1	..	..	..	..	..	..	..	1	1
Cardio Vascular Degeneration	19	15	34	..	..	..	..	..	..	19	15	34
Chronic Cardiac Disease	..	1	1	..	..	..	..	..	..	..	1	1
Chronic Myocarditis	3	1	4	12	17	29	..	..	..	15	18	33
Congenital Heart Disease	1	..	1	..	..	..	..	..	..	1	..	1
Congestive Cardiac Failure	..	3	3	..	..	..	..	..	..	..	3	3
Coronary Thrombosis	10	7	17	4	1	5	3	..	3	17	8	25
Hypertension	1	..	1	..	..	..	..	..	..	1	..	1
Left Ventricular Failure	1	3	4	..	..	..	..	..	..	1	3	4
Mitral Stenosis	..	..	..	..	..	..	..	1	1	..	1	1
Myocardial Degeneration	9	15	24	..	..	..	..	1	1	9	16	25
Myocarditis	..	..	..	2	..	2	8	1	9	10	1	11
Valvular Disease of Heart	..	..	..	..	..	..	2	..	2	2	..	2
DISEASES OF RESPIRATORY SYSTEM—												
Bronchial Asthma	1	..	1	..	..	..	..	..	..	1	..	1
Bronchiectasis	..	1	1	..	..	..	..	..	..	..	1	1
Broncho Pneumonia	2	3	5	..	3	3	2	6	8	4	12	16
Lobar Pneumonia	4	3	7	..	1	1	..	..	..	4	4	8
Pneumonia	..	..	..	..	..	..	2	..	2	2	..	2
Pulmonary Embolism	..	..	..	..	1	1	..	..	..	..	1	1
Pulmonary Tuberculosis	1	3	4	1	..	1	..	..	..	2	3	5
DISEASES OF ALIMENTARY SYSTEM—												
Atrophic Enteritis	..	..	..	..	1	1	..	..	..	..	1	1
Bacillary Dysentery	..	1	1	..	..	..	..	..	..	..	1	1
Carcinoma of Caecum	1	..	1	..	..	..	..	..	..	1	..	1
Carcinoma of Gall Bladder	..	..	..	1	..	1	..	..	..	1	..	1
Carcinoma of Rectum	..	..	..	1	..	1	..	..	..	1	..	1
Enteric Fever	..	..	..	1	..	1	..	..	..	1	..	1
Gastro-Enteritis	4	1	5	..	..	..	..	2	2	4	3	7
Intcstinal Obstruction	..	..	..	1	1	2	..	..	..	1	1	2
Malignant Disease of Stomach	..	..	..	..	..	..	1	..	1	1	..	1
Tertiary Syphilis of Liver	..	..	..	1	..	1	..	..	..	1	..	1
DISEASES OF GENITO-URINARY SYSTEM—												
Acute Nepharitis	..	..	..	..	..	..	1	..	1	1	..	1
Enlarged Prostate	1	..	1	..	..	..	..	..	..	1	..	1
Nephritis	..	1	1	..	1	1	1	..	1	1	2	3
Ovarian Adeno-carcinoma	..	1	1	..	..	..	..	..	..	..	1	1
ACCIDENT—												
Fractured Neck of Femur	1	..	1	..	..	..	..	..	..	1	..	1
Suicide by Drowning	1	..	1	..	..	..	..	..	..	1	..	1
Suicide by Hanging	2	..	2	..	..	..	..	..	..	2	..	2
NOT ASCERTAINED—												
Patient Died whilst on Leave	1	..	1	..	..	..	..	..	..	1	..	1
Totals	94	84	178	34	37	71	23	13	36	151	134	285

TABLE LIX.

BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
In apparently good health and condition	227	203	430	35	31	66	11	20	31	273	254	527
In indifferent health and reduced condition	116	118	234	26	25	51	..	3	3	142	146	288
In bad health and exhausted condition	43	53	96	2	2	4	2	4	6	47	59	106
Totals	386	374	760	63	58	121	13	27	40	462	459	921

TABLE LX.

BIRTH PLACES OF PATIENTS ADMITTED DURING PERIOD ENDING 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Queensland	203	235	438	41	35	76	9	22	31	253	292	545
New South Wales	46	35	81	5	11	16	1	..	1	52	46	98
Victoria	15	12	27	3	3	6	..	..	..	18	15	33
South Australia	6	2	8	..	2	2	..	..	..	6	4	10
Western Australia	2	..	2	..	..	..	..	..	..	2	..	2
Tasmania	2	3	5	..	..	..	..	..	..	2	3	5
New Guinea	..	..	..	..	..	..	..	1	1	..	1	1
New Zealand	..	4	4	..	..	..	..	..	..	..	4	4
Fiji	..	..	..	1	..	1	..	..	..	1	..	1
Polynesia	1	..	1	..	..	..	..	..	..	1	..	1
England	36	30	66	4	4	8	..	..	..	40	34	74
Scotland	6	6	12	..	1	1	..	..	..	6	7	13
Ireland	7	9	16	2	..	2	..	..	..	9	9	18
Wales	4	1	5	..	1	1	..	..	..	4	2	6
Malta	2	..	2	..	..	..	..	..	..	2	..	2
India	1	1	2	1	..	1	..	..	..	2	1	3
Afghanistan	1	..	1	..	..	..	..	..	..	1	..	1
China	1	..	1	..	..	..	..	..	..	1	..	1
Denmark	1	..	1	..	..	..	..	..	..	1	..	1
Finland	1	1	2	..	..	..	..	..	..	1	1	2
France	1	1	2	..	..	..	..	..	..	1	1	2
Germany	5	3	8	..	1	1	..	..	..	5	4	9
Greece	1	2	3	..	..	..	..	..	..	1	2	3
Italy	6	3	9	..	..	..	..	..	..	6	3	9
New Caledonia	1	..	1	..	..	..	..	..	..	1	..	1
Poland	7	1	8	1	..	1	..	..	..	8	1	9
Roumania	1	..	1	..	..	..	..	..	..	1	..	1
Russia	5	2	7	..	..	..	..	..	..	5	2	7
Switzerland	1	..	1	..	..	..	..	..	..	1	..	1
United States of America ..	1	1	2	1	..	1	..	..	..	2	1	3
Yugo Slavia	6	3	9	..	..	..	..	..	..	6	3	9
Unknown	16	19	35	4	..	4	3	4	7	23	23	46
Totals	386	374	760	63	58	121	13	27	40	462	459	921

TABLE LXI.

DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Northern and North-Western ..	49	29	78	..	..	..	..	1	1	49	30	79
Central	31	31	62	..	..	..	1	..	1	32	31	63
Southern and South-Western ..	306	314	620	63	58	121	12	26	38	381	398	779
Totals	386	374	760	63	58	121	13	27	40	462	459	921

TABLE LXII.

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES, OR DEATHS OCCURRED DURING THE YEAR, AND THOSE WHO REMAINED IN THE HOSPITAL ON 30TH JUNE, 1951.

Age Group.	Admissions.			Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved and not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
der 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
years and under 10 years	1	..	1	..	..	..	1	..	1	..	..	..	1	..	1
years and under 15 years	3	1	4	..	..	..	1	..	1	..	..	..	9	3	12
years and under 20 years	15	10	25	6	6	12	2	1	3	1	..	1	25	11	36
years and under 30 years	86	47	133	52	35	87	2	2	4	4	..	4	149	113	262
years and under 40 years	70	64	134	47	52	99	1	3	4	5	1	6	216	179	395
years and under 50 years	57	64	121	33	35	68	1	..	1	9	7	16	232	281	513
years and under 60 years	40	61	101	22	37	59	2	..	2	14	4	18	244	247	491
years and under 70 years	53	57	110	25	23	48	..	2	2	23	20	43	186	178	364
years and under 80 years	38	39	77	6	6	12	..	2	2	23	27	50	92	123	215
years and under 90 years	20	26	46	2	1	3	2	1	3	14	21	35	26	62	88
years and over	3	4	7	..	..	..	..	1	1	1	4	5	3	6	9
known	..	1	1	..	..	..	..	..	..	..	..	..	1	2	3
Totals, Brisbane Mental Hospital	**386**	**374**	**760**	**193**	**195**	**388**	**12**	**12**	**24**	**94**	**84**	**178**	**1,184**	**1,205**	**2,389**
TOOWOOMBA MENTAL HOSPITAL.															
nder 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
years and under 10 years	..	..	..	..	..	..	..	..	..	..	..	..	4	3	7
years and under 15 years	1	..	1	..	..	..	..	..	..	..	..	..	4	2	6
years and under 20 years	4	4	8	1	..	1	1	2	3	..	..	..	8	5	13
years and under 30 years	8	5	13	3	1	4	5	1	6	1	1	2	41	25	66
years and under 40 years	8	8	16	5	4	9	2	2	4	1	2	3	81	65	146
years and under 50 years	14	13	27	5	5	10	6	3	9	5	2	7	129	92	221
years and under 60 years	10	6	16	3	..	3	5	5	10	8	8	16	128	171	299
years and under 70 years	9	11	20	3	2	5	4	1	5	10	8	18	142	155	297
years and under 80 years	4	8	12	1	1	2	1	..	1	7	8	15	78	72	150
years and under 90 years	5	3	8	1	..	1	..	..	..	2	7	9	17	27	44
years and over	..	..	..	..	..	..	..	1	1	..	1	1	..	1	1
known	..	..	..	..	..	..	..	..	..	..	..	..	4	4	8
Totals Toowoomba Mental Hospital	**63**	**58**	**121**	**22**	**13**	**35**	**24**	**15**	**39**	**34**	**37**	**71**	**636**	**622**	**1,258**
IPSWICH MENTAL HOSPITAL.															
der 5 years	9	16	25	..	..	..	..	..	..	4	8	12	12	12	24
years and under 10 years	3	4	7	1	..	1	1	..	1	3	..	3	26	18	44
years and under 15 years	1	5	6	..	1	1	2	2	4	..	..	..	27	10	37
years and under 20 years	..	2	2	..	..	..	..	2	2	..	..	..	12	15	27
years and under 30 years	..	..	..	..	..	..	..	..	..	..	..	..	11	16	27
years and under 40 years	..	..	..	..	..	..	..	..	..	..	1	1	26	24	50
years and under 50 years	..	..	..	..	..	..	..	1	1	1	..	1	57	23	80
years and under 60 years	..	..	..	..	..	..	..	..	..	3	..	3	73	28	101
years and under 70 years	..	..	..	..	..	..	..	..	..	1	4	5	61	20	81
years and under 80 years	..	..	..	..	..	..	..	..	..	9	..	9	31	15	46
years and under 90 years	..	..	..	..	..	..	..	..	..	2	..	2	11	5	16
years and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
known	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals, Ipswich Mental Hospital	**13**	**27**	**40**	**1**	**1**	**2**	**3**	**5**	**8**	**23**	**13**	**36**	**348**	**186**	**534**
Grand Totals all Hospitals	**462**	**459**	**921**	**216**	**209**	**425**	**39**	**32**	**71**	**151**	**134**	**285**	**2,168**	**2,013**	**4,181**

TABLE LXIII.

OCCUPATIONS OF PATIENTS ADMITTED DURING THR YEAR ENDED 30TH JUNE, 1951.

—	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Accountant	4	..	4	..	..	..	..	..	..	4	..	4
Actor	1	..	1	..	..	..	..	..	..	1	..	1
Artist	..	1	1	..	..	..	..	..	..	..	1	1
Bacteriologist	1	..	1	..	..	..	..	..	..	1	..	1
Barmaid	..	1	1	..	..	..	..	..	..	..	1	1
Blacksmith	1	..	1	..	..	..	..	..	..	1	..	1
Builder	1	..	1	..	..	..	..	..	..	1	..	1
Boot Repairer	1	..	1	..	..	..	..	..	..	1	..	1
Cabinet Maker	3	..	3	..	..	..	..	..	..	3	..	3
Cane Cutter	2	..	2	..	..	..	..	..	..	2	..	2
Carpenter	4	..	4	..	..	..	..	..	..	4	..	4
Cattle Dealer	..	..	..	1	..	1	..	..	..	1	..	1
Chef	..	..	..	1	..	1	..	..	..	1	..	1
Chemist	2	..	2	..	..	..	..	..	..	2	..	2
Children	4	1	5	..	..	..	13	26	39	17	27	44
Cleaner	2	2	4	..	..	..	..	..	..	2	2	4
Clerk	15	12	27	2	1	3	..	..	..	17	13	30
Cook	5	1	6	1	..	1	..	..	..	6	1	7
Dairy Farmer	..	..	..	1	..	1	..	..	..	1	..	1
Diver	1	..	1	..	..	..	..	..	..	1	..	1
Domestic Duties	..	265	265	..	13	13	..	1	1	..	279	279
Dressmaker	..	4	4	..	..	..	..	..	..	..	4	4
Dental Mechanic	1	..	1	..	..	..	..	..	..	1	..	1
Electroplater	1	..	1	..	..	..	..	..	..	1	..	1
Engineer	1	..	1	..	..	..	..	..	..	1	..	1
Factory Hand	1	9	10	2	..	2	..	..	..	3	9	12
Farmer	34	2	36	5	..	5	..	..	..	39	2	41
Farm Hand	5	2	7	..	..	..	..	..	..	5	2	7
Fitter	3	..	3	..	..	..	..	..	..	3	..	3
Forestry Worker	5	..	5	..	..	..	..	..	..	5	..	5
Foundry Worker	..	..	..	1	1	2	..	..	..	1	1	2
French Polisher	1	..	1	..	..	..	..	..	..	1	..	1
Governess	..	1	1	..	..	..	..	..	..	..	1	1
Grazier	3	..	3	3	..	3	..	..	..	6	..	6
Hotel Assistant	..	..	..	1	..	1	..	..	..	1	..	1
Hotel Keeper	1	..	1	..	..	..	..	..	..	1	..	1
Household Duties	..	..	..	..	1	1	..	..	..	..	1	1
Housekeeper	..	..	..	..	1	1	..	..	..	..	1	1
Housewife	..	..	..	..	28	28	..	..	..	..	28	28
Labourer	118	..	118	17	..	17	..	..	..	135	..	135
Linesman	2	..	2	..	..	..	..	..	..	2	..	2
Linotypist	1	..	1	..	..	..	..	..	..	1	..	1
Meatworker	2	..	2	..	..	..	..	..	..	2	..	2
Mechanic	8	..	8	..	..	..	..	..	..	8	..	8
Millhand	..	..	..	1	..	1	..	..	..	1	..	1
Milliner	..	1	1	..	..	..	..	..	..	..	1	1
Miner	5	..	5	..	..	..	..	..	..	5	..	5
Moulder	1	..	1	..	..	..	..	..	..	1	..	1
Musician	2	..	2	..	..	..	..	..	..	2	..	2
Newsagent	..	..	..	1	..	1	..	..	..	1	..	1
Nil	21	10	31	6	5	11	..	..	..	27	15	42
Nurse	..	10	10	..	1	1	..	..	..	..	11	11
Painter	4	..	4	1	..	1	..	..	..	5	..	5
Pensioner	53	27	80	5	5	10	..	..	..	58	32	90
Piano Tuner	..	..	..	1	..	1	..	..	..	1	..	1
Plasterer	1	..	1	..	..	..	..	..	..	1	..	1
Plumber	2	..	2	1	..	1	..	..	..	3	..	3
Police Officer	1	..	1	..	..	..	..	..	..	1	..	1
Railway Employee	7	..	7	..	..	..	..	..	..	7	..	7
Rigger	1	..	1	..	..	..	..	..	..	1	..	1
Saddler	..	..	..	1	..	1	..	..	..	1	..	1
Salesman	3	2	5	..	..	..	..	..	..	3	2	5
Seaman	3	..	3	..	..	..	..	..	..	3	..	3
Shearer	2	..	2	..	..	..	..	..	..	2	..	2
Shop Assistant	..	..	..	2	..	2	..	..	..	2	..	2
Soldier	3	..	3	..	..	..	..	..	..	3	..	3
Station Hand	4	..	4	1	..	1	..	..	..	5	..	5
Stenographer	1	2	3	..	..	..	..	..	..	1	2	3
Storekeeper	4	2	6	..	..	..	..	..	..	4	2	6
Storeman	2	..	2	..	..	..	..	..	..	2	..	2
Tailor	2	..	2	1	..	1	..	..	..	3	..	3
Technician	..	..	..	1	..	1	..	..	..	1	..	1
Telegraphist	1	..	1	..	..	..	..	..	..	1	..	1
Telephonist	..	1	1	..	..	..	..	..	..	..	1	1
Timber Cutter	3	..	3	..	..	..	..	..	..	3	..	3
Timber Worker	..	..	..	1	..	1	..	..	..	1	..	1
Unknown	19	14	33	4	2	6	..	..	..	23	16	39
Waitress	..	4	4	..	..	..	..	..	..	..	4	4
Waterside Worker	5	..	5	..	..	..	..	..	..	5	..	5
Well Borer	..	..	..	1	..	1	..	..	..	1	..	1
Wool Classer	1	..	1	..	..	..	..	..	..	1	..	1
Yardman	1	..	1	..	..	..	..	..	..	1	..	1
Totals	386	374	760	63	58	121	13	27	40	462	459	921

TABLE LXIV.

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1951.

Marital Status.	Admissions.			Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved or not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
Single	224	123	347	108	59	167	10	5	15	37	21	58	904	550	1,454
Married	122	181	303	72	110	182	..	2	2	40	25	65	214	469	683
Widowed	32	66	98	8	18	26	1	5	6	14	36	50	33	175	208
Divorced	2	3	5	3	5	8	..	..	..	1	1	2	11	9	20
Unknown	6	1	7	2	3	5	1	..	1	2	1	3	22	2	24
Totals, Brisbane Mental Hospital	**386**	**374**	**760**	**193**	**195**	**388**	**12**	**12**	**24**	**94**	**84**	**178**	**1,184**	**1,205**	**2,389**
TOOWOOMBA MENTAL HOSPITAL.															
Single	32	15	47	9	2	11	12	6	18	24	17	41	527	324	851
Married	25	31	56	12	8	20	10	6	16	6	15	21	72	232	304
Widowed	6	12	18	..	3	3	2	3	5	2	3	5	17	47	64
Divorced	..	..	..	1	..	1	..	..	..	..	..	..	6	16	22
Unknown	..	..	..	..	..	..	..	..	..	2	2	4	14	3	17
Totals, Toowoomba Mental Hospital	**63**	**58**	**121**	**22**	**13**	**35**	**24**	**15**	**39**	**34**	**37**	**71**	**636**	**622**	**1,258**
IPSWICH MENTAL HOSPITAL.															
Single	13	27	40	1	1	2	3	5	8	15	12	27	288	124	412
Married	..	..	..	..	..	..	..	..	..	4	..	4	41	43	84
Widowed	..	..	..	..	..	..	..	..	..	2	1	3	5	10	15
Divorced	..	..	..	..	..	..	..	..	..	..	..	..	3	3	6
Unknown	..	..	..	..	..	..	..	..	..	2	..	2	11	6	17
Totals, Ipswich Mental Hospital	**13**	**27**	**40**	**1**	**1**	**2**	**3**	**5**	**8**	**23**	**13**	**36**	**348**	**186**	**534**
Grand Totals, all Hospitals ..	**462**	**459**	**921**	**216**	**209**	**425**	**39**	**32**	**71**	**151**	**134**	**285**	**2,168**	**2,013**	**4,181**

TABLE LXV.

LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1951.

—	Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE MENTAL HOSPITAL.												
Under 1 month	3	11	14	2	1	3	17	8	25	20	34	54
1 month and under 3 months	46	28	74	2	1	3	13	12	25	54	47	101
3 months and under 6 months	72	64	136	..	..	..	13	9	22	66	73	139
6 months and under 9 months	27	44	71	2	5	7	6	2	8	54	48	102
9 months and under 12 months ..	12	15	27	2	..	2	3	7	10	38	46	84
1 year and under 2 years	22	22	44	1	2	3	13	10	23	115	112	227
2 years and under 3 years	5	3	8	..	..	..	7	2	9	93	99	192
3 years and under 5 years	2	5	7	1	1	2	4	10	14	109	137	246
5 years and under 7 years	1	2	3	1	1	2	1	5	6	94	105	199
7 years and under 10 years	2	1	3	1	1	2	2	6	8	103	128	231
10 years and under 12 years	..	..	..	..	..	..	..	1	1	80	90	170
12 years and under 15 years	..	..	..	..	..	..	1	4	5	74	86	160
15 years and under 20 years	1	..	1	..	..	..	5	3	8	109	92	201
20 years and Over	..	..	..	..	..	..	9	5	14	175	108	283
Totals, Brisbane Mental Hospital ..	**193**	**195**	**388**	**12**	**12**	**24**	**94**	**84**	**178**	**1,184**	**1,205**	**2,389**

TABLE LXV.—*continued.*

	Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Toowoomba Mental Hospital.												
Under 1 month	12	5	17	8	3	11	..	1	1	8	3	11
1 month and under 3 months	4	3	7	9	3	12	3	1	4	4	11	15
3 months and under 6 months	1	2	3	2	1	3	1	3	4	2	8	10
6 months and under 9 months	1	2	3	..	5	5	1	2	3	7	5	12
9 months and under 12 months	1	..	1	2	..	2	1	2	3	6	7	13
1 year and under 2 years	2	1	3	1	1	2	1	5	6	39	16	55
2 years and under 3 years	..	..	..	1	..	1	..	1	1	15	10	25
3 years and under 5 years	..	..	..	1	1	2	2	2	4	38	34	72
5 years and under 7 years	1	..	1	..	..	..	3	..	3	46	28	74
7 years and under 10 years	..	..	..	..	..	..	4	..	4	46	30	76
10 years and under 12 years	..	..	..	..	1	1	3	2	5	34	35	69
12 years and under 15 years	..	..	..	..	..	..	1	3	4	64	43	107
15 years and under 20 years	..	..	..	..	..	..	1	2	3	68	102	170
20 years and Over	..	..	..	..	..	..	13	13	26	259	290	549
Totals, Toowoomba Mental Hospital	**22**	**13**	**35**	**24**	**15**	**39**	**34**	**37**	**71**	**636**	**622**	**1,258**
Ipswich Mental Hospital.												
Under 1 month	..	..	..	..	1	1	3	2	5	2	3	5
1 month and under 3 months	..	..	..	..	..	..	1	3	4	4	2	6
3 months and under 6 months	..	1	1	1	2	3	1	1	2	..	7	7
6 months and under 9 months	..	..	..	1	1	2	..	1	1	10	2	12
9 months and under 12 months	..	..	..	..	..	..	..	1	1	2	3	5
1 years and under 2 years	1	..	1	1	..	1	1	..	1	11	7	18
2 years and under 3 years	..	..	..	..	..	..	..	..	..	13	14	27
3 years and under 5 years	..	..	..	..	..	..	4	..	4	15	11	26
5 years and under 7 years	..	..	..	..	..	..	1	1	2	30	17	47
7 years and under 10 years	..	..	..	..	1	1	2	..	2	55	39	94
10 years and under 12 years	..	..	..	..	..	..	1	..	1	24	8	32
12 years and under 15 years	..	..	..	..	..	..	..	..	..	42	17	59
15 years and under 20 years	..	..	..	..	..	..	1	2	3	39	20	59
20 years and Over	..	..	..	..	..	..	8	2	10	101	36	137
Totals, Ipswich Mental Hospital	**1**	**1**	**2**	**3**	**5**	**8**	**23**	**13**	**36**	**348**	**186**	**534**
Grand Totals, all Hospitals	**216**	**209**	**425**	**39**	**32**	**71**	**151**	**134**	**285**	**2,168**	**2,013**	**4,181**

TABLE LXVI.

EXPENDITURE TABLE FOR THE TWELVE MONTHS ENDING 30TH JUNE, 1951.

—	Brisbane Mental Hospital.	Toowoomba Mental Hospital.	Ipswich Mental Hospital.	Total and Average Costs.
Average Number Daily Resident.	2,199.	1,221.	527.	3,947.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total expenditure	458,230 7 3	223,124 7 2	152,122 14 5	833,477 8 10
Sales	1,153 14 8	206 7 3	226 15 8	1,586 17 7
Net Expenditure	457,076 12 7	222,917 19 11	151,895 18 9	831,890 11 3
				Average Costs.
Gross cost per Patient per annum	208 7 7	182 14 9	288 13 2	211 3 4
Net cost per Patient per annum	207 17 2	182 11 5	288 4 7	210 15 4
Gross cost per Patient per week	4 0 2	3 10 3	5 11 0	4 1 3
Net cost per Patient per week	3 19 11	3 10 2	5 10 10	4 1 1

TABLE LXVII.

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF PUBLIC WORKS AT MENTAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR ENDED 30TH JUNE, 1951.

Building.	Expenditure, 1950–51.		
	Revenue.	Loan.	Total.
	£ s. d.	£ s. d.	£ s. d.
Mental Hospitals—			
Brisbane (excluding expenditure at the Repatriation Hospital)	2,846 13 2	14,568 10 1	17,415 3 3
Ipswich	192 5 0	1,675 4 0	1,867 9 0
Toowoomba	5,132 17 10	4,061 7 3	9,194 5 1
Charters Towers	..	48,962 10 1	48,962 10 1
Epileptic Home—Toowoomba	549 19 9	1,356 0 5	1,906 0 2
	£8,721 15 9	£70,623 11 10	£79,345 7 7

DETAILS OF EXPENDITURE ON MAJOR WORKS.

	Details.	Expenditure. 1950–51. £ s. d.
Brisbane Mental Hospital	Erection of packing and shelter shed in vegetable garden	3,526 12 6
	Provision of Laundryettes to Female Wards	5,130 17 3
	Painting and repairs	2,024 8 3
Toowoomba Mental Hospital ..	Construction of Laundryettes at Male and Female Wards	2,834 14 10
	Repairs and Painting Roofs	963 16 1
	External Painting—Various buildings ..	3,051 15 4
Ipswich Mental Hospital	Provision of Laundryettes, foul linen rooms &c., Female Wards 1, 2, and 3 ..	715 1 1
Charters Towers Mental Hospital ..	Construction of internal roadway system	1,538 5 5
	Erection of Male and Female Admission Wards	37,096 15 3
	Earthworks, drainage, rolling, watering, laying concrete pipes, &c.	5,357 7 2

TABLE LXVIII.

POPULATION CHANGES AT EPILEPTIC HOME DURING THE YEAR 1950–51.
PATIENTS AT 30TH JUNE, 1950 : MALES 50 ; FEMALES 62 ; TOTAL 112.
FOR YEAR ENDED 30TH JUNE, 1951.

Age.	Admitted.		Discharged.		To Ment. Hosp.		Deaths.		Remaining.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Under 5	..	..	..	..	..	..	..	..	..	..	..
2—10	..	..	..	..	..	..	..	..	2	..	2
10—15	3	2	..	..	..	..	..	..	7	6	13
15—20	..	1	..	1	..	..	..	..	4	7	11
20—25	..	1	..	1	..	..	..	..	8	5	13
25—30	..	..	..	..	..	..	..	1	5	5	10
30—35	1	1	..	1	..	..	..	...	7	9	16
35—40	..	..	..	..	..	..	..	..	6	7	13
40—45	..	..	..	..	..	..	..	..	4	4	8
45—50	..	..	..	..	..	..	..	..	6	7	13
50—55	..	..	..	..	..	..	..	..	..	5	5
55—60	..	..	..	..	..	..	..	..	2	2	4
60—65	..	..	..	..	..	..	..	1	2	4	6
65—70	..	..	..	..	..	..	..	1	..	..	..
70—85	..	..	..	..	..	..	1	..	..	..	..
Totals	4	5	..	3	..	..	1	3	53	61	114

PATIENTS RESIDENT—

Under 5 years	40
5—10	29
10—15	20
15—20	12
Over 20	13

CAUSES OF DEATH—

Female aged 61.	Broncho Pneumonia, Cerebral Thrombosis.
Female aged 27.	Chronic Endocarditis Epilepsy.
Female aged 66.	Cerebral Haemorrhage Senility.
Male aged 79.	Hypostatic Pneumonia, Senility.

TABLE LXIX.

YEARLY SUMMARY OF PATIENTS TREATED AT THE PSYCHIATRIC CLINIC, CLASSIFED IN AGE GROUPS ACCORDING TO DIAGNOSIS, 1950–51.

—	0–4.		5–9.		10–14.		15–19.		20–29.		30–39.		40–49.		50–59.		60 & over		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Schizophrenic	..	..	..	..	..	..	2	2	5	3	..	6	1	2	..	2	..	..	8	15	23
Manic-Depressive	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	..	2
Depressional Involutional	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	2
Paranoic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Organic	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	1	..	2	3	5
																			13	20	33
Anxiety	..	..	..	..	..	..	1	..	3	5	5	5	3	4	..	2	1	..	13	16	29
Anxiety and Depression	..	..	..	..	..	..	..	..	..	1	1	..	2	1	2	2	..	2	5	6	11
Hysteric	..	..	..	..	..	..	..	..	..	3	..	5	..	..	..	2	..	..	..	10	10
Phobic	..	..	..	..	..	..	..	..	1	1	2	..	1	1	..	1	..	..	4	3	7
Obsessive Complusive	..	..	..	..	..	..	1	1	2	..	4	..	1	2	..	..	..	..	8	3	11
Neurotic Depression	..	..	..	..	..	..	..	..	..	..	1	2	1	..	1	1	..	..	3	3	6
Other Psychoneuroses	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	3	..	3
Pathological Personality	..	..	..	..	1	1	10	4	15	1	5	1	3	..	1	..	1	..	36	7	43
Alcoholism	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	2	1	3
																			74	49	123
Epilepsy	..	1	3	..	1	..	1	..	1	..	..	..	1	1	..	..	..	1	7	3	10
Spastic	..	..	1	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	2	4
Intracranial Damage	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
																			10	7	17
Behaviour Problems	8	2	17	9	22	8	5	1	..	..	..	..	..	..	..	..	..	..	52	20	72
Mongols	..	2	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	2	4	6
Mental Deficiency	2	1	5	6	9	8	1	3	2	2	..	..	..	..	..	..	..	..	19	20	39
Borderline Deficiency	..	1	1	3	1	2	..	1	..	..	..	..	..	2	..	1	..	..	2	10	12
																			23	34	57
Educational Backwardness	..	..	4	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	7	1	8
Diagnostic Testing—																					
Clinic	..	..	..	..	4	..	2	2	8	2	2	1	1	..	..	..	..	..	17	5	22
At Brisbane Mental Hosp.	..	..	..	..	..	..	3	5	11	5	4	..	3	3	2	1	1	..	24	14	38
																			41	19	60
Not diagnosed	..	..	1	..	..	1	1	1	1	1	..	..	1	1	..	..	..	..	4	4	8
Referred by Mental Hospls.	..	..	..	..	..	..	..	2	6	3	3	4	3	9	..	4	1	1	13	23	36
Stammering	1	1	1	2	4	1	6	2	7	2	3	1	1	1	..	..	..	..	23	10	33
Alalia	14	4	4	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	19	5	24
Dyslalia	5	3	7	4	2	4	..	..	..	..	..	..	..	..	..	..	..	..	14	11	25
Cleft	3	..	2	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	5	2	7
Aphasia	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Idioglossia	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Laryngectomy	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	3	..	5	..	5
Partly deaf	2	1	3	2	3	..	..	..	1	..	..	..	..	..	1	1	..	..	10	4	14
Cluttering	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aphonia	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	1	2
																			78	34	112
Grand Total	..		..		..		..		..		..		..		..		..		315	211	526

TABLE LXX.

SHOWING ADMISSIONS, DISCHARGES AND DEATHS, WACOL REPATRIATION PAVILION, 1950–51.

Total number of patients on books as at 30th June, 1950		102
Transferred from Brisbane Mental Hospital	40	
Transferred from Toowoomba Mental Hospital	6	
Transferred from Ipswich Mental Hospital	3	
	49	
		151
Transferred to Brisbane Mental Hospital	27	
Discharged, Recovered	14	
Discharged, Relieved	1	
Discharged, Section 49	4	
Voluntary Left	3	
Died	2	
	51	
Total number of patients on books as at 30th June, 1951		100

Total number of patients on leave as at 30th June, 1951		5
Total number of patients in residence as at 30th June, 1951		95
Total number of patients on leave as at 30th June, 1950		5
Granted leave (1–7–50—30–6–51)		44
		49
Discharged off leave	14	
Died on leave	1	
Returned from leave	29	
	44	
Total number of patients on leave as at 30th June, 1951		5

DIVISION OF LABORATORY SERVICES.

LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

Director: Dr. J. I. Tonge, M.B., B.S. (Syd.) Deputy Director: M. J. J. O'Reilly, M.B., B.S. (Syd.)

Technical Supervisor: H. E. Brown.

Statistical Summary.

Laboratory.

(*a*) Haematology.
(*b*) Histology.
(*c*) Serology.
(*d*) Laboratory Diagnosis of Tuberculosis.
(*e*) Clinical Pathology.

Agglutination Tests for Fevers.

(*a*) General.
(*b*) Leptospirosis.
(*c*) Brucellosis and Q. fever.
(*d*) The Typhus Group.

Visceral Granulomatous Lesions Resembling Lymphopathia Venereum Histologically.

Cerebral Calcification.

Nocardiosis.

Investigation of the Use of Ultra-Violet Light for Hairdressers' Instruments.

The City Morgue.

Publications.

Statistical Summary, 1950-51.

TABLE LXXI.

1. Bacteriology.

A. Specimens of Human Origin.

Specimens.	Mode of Examination.	Number.
Swabs—		
Throat	Culture	2,766
Nose	Direct Smear	14
Urethra		
Cervix	Culture	1,110
Bartholin's Gland	Direct Smear	6,389
Anus		
Bowel (P.M.)	Culture	1
Spleen (P.M.)	Culture	1
Lung (P.M.)	Culture	1
Heart (P.M.)	Culture	1
Stomach (P.M.)	Culture	1
Caecum (P.M.)	Culture	1
Ileum (P.M.)	Culture	1
Intestine (P.M.)	Culture	1
Large and Small Bowel (P.M.)	Culture	2
Eye	Culture	3
	Direct Smear	1
Leg	Culture	4
	Direct Smear	2
Foot	Culture	1
	Direct Smear	1
Pus	Culture	32
	Direct Smear	15
	Animal Inoculation	2
	Sensivity test to Penicillin Aureomycin, Chloromycetin and Streptomycin	19

TABLE LXXI.—*continued.*

A. Specimens of Human Origin—continued.

Specimens.	Mode of Examination.	Number.
Pleural Fluid	Culture	16
	Microscopical	18
	Animal Inocluation	4
Cerebrospinal Fluid	Culture	55
	Microscopical	74
	Animal Inoculation	1
Seminal Fluid	Microscopical	6
Ascitic Fluid	Culture	1
	Microscopical	1
	Animal Inoculation	1
Prostatic Fluid	Culture	1
	Direct Smear	1
Synovial Fluid	Culture	1
	Microscopical	1
Serous Exudate	Direct Smear	2,707
	Dark Ground Microscopy	11
Sputum	Culture	101
	Direct Smear	358
	Animal Inoculation	11
	Sensitivity test to Penicillin, Aureomycin, Chloromycetin and Streptomycin	5
Blood	Culture	7
Hydrocoele Fluid	Culture	1
	Microscopical	1
Urine	Culture	267
	Microscopical	1,077
	Dark Ground Microscopy	3
	Animal Inoculation	7
	Sensitivity test to Penicillin, Aureomycin, Chloromycetin and Streptomycin	111
Faeces	Culture	151
	Microscopical	
	Sensitivity test to Penicillin, Aureomycin, Chloromycetin and Streptomycin	4
Gastric Contents	Culture	43
	Microscopical	22
	Animal Inoculation	3
Small Intestine (P.M. Tissue)	Culture	1
Large Intestine (P.M. Tissue)	Culture	1
Virulence Tests for Corynebacterium Diphtheriae		68
		15,511

TABLE LXXII.

B. Foods and Waters.

Specimens.	Mode of Examination.	Number.
Water	Plate Count	195
	Culture	197
	Microscopical	2
Milk	Plate Count	325
	Reductase Test	41
	Culture	317
Human Milk	Plate Count	5
	Culture	5
Pineapple Juice	Plate Count	2
	Culture	1
Pineapple Crush	Culture	1
Pineapple Pieces	Culture	1
Carrot Juice	Plate Count	4
	Culture	4
Apple Juice	Plate Count	1
	Culture	1
Tomato Sauce	Culture	5
Tinned Fish	Culture	31
Oysters	Plate Count	10
	Culture	1
Carrots	Culture	2
Corned Meat	Culture	1
Rump Steak	Culture	1
Mutton Chop	Culture	1
Brine	Culture	1
Egg Pulp	Culture	1
Cheese	Culture	1
Cerevite Bread	Culture	1
White Bread	Culture	3
Diabetic Bread	Culture	1
Bread and Butter	Culture	1
Weetbix and Butter	Culture	1
		1,164

TABLE LXXIII.

C. Various Materials.

Specimens.	Object of Examination.	Number.
Disinfectants and Antiseptics	Rideal-Walker Co-efficient	28
	Germicidal Value	4
Soap	Germicidal Value	4
Protamine Zinc Insulin	Sterility	1
Bottles	Sterility	19
Bacterial Culture	Identification	1
Mud	Presence of *Cl. tetani*	1
Sludge	Presence of Iron bacteria	1
Septic Effluent	Presence of Micro-organisms	3
Silt	Presence of *E. coli* and *Staphylococci*	3
Packets of Cigarettes	Presence of Yeasts and Moulds	15
		80

TABLE LXXIV.

2. Serology.

—	Number.
Serum Agglutination Tests—	
Eberthella typhosa (O)	1
Eberthella typhosa (H)	561
Salmonella paratyphi (H)	553
Salmonella schottmulleri (H)	559
Proteus OX19	679
Proteus OXK	679
Proteus OX2	9
Brucella abortus	640
Brucella suis	1
Brucella melitensis	1
Leptospira pomona	681
Leptospira australis A	753
Leptospira australis B	753
Leptospira mitis	675
Leptospira icterohaemorrhagiae	756
Leptospira canicola	13
Coxiella burneti	723
Carried Forward	8,037

TABLE LXXIV.—*continued.*

2. Serology—*continued.*

—	Number.
Brought Forward	8,037
Pasteurella tularensis	6
Cold Agglutinins test	1
Paul Bunnell Test	12
Complement Fixation Tests—	
Eagle Wassermann (Serum)—	
Routine	3,657
Quantitative	90
Eagle Wassermann (C.S.F.)	149
Gonococcal C.F.	399
Flocculation Tests—	
Kline	4,504
Kahn—	
Routine	1,131
Quantitative	72
Lange Colloidal Gold Reaction (C.S.F.)	125
	18,183

TABLE LXXV.

3. Biochemistry.

Specimen.	Examined for.	Number.
Whole Blood	Urea	99
	Sugar	62
	Uric Acid	18
	Cholesterol	2
	Pigments	3
	Calcium	1
	P.A.S.	11
Plasma	Total Protein	44
	Bilirubin	1
	Chloride (as NaCl)	1
Serum	Calcium	10
	Protein	80
	Cholesterol	49
	Bilirubin	33
	Chloride (as NaCl)	11
	Sodium (as Na)	5
	Acid phosphatase	35
	Alkaline phosphatase	9
	Inorganic phosphate	2
	Potassium	6
	Thiocyanate	9
Cerebrospinal Fluid	Protein	111
	Globulin	102
	Chloride (as NaCl)	68
	Sugar	69
	Urea	20
Pleural Fluid	Specific Gravity	1
	Protein	2
	Chloride (as NaCl)	1
Ascitic Fluid	Protein	2
	Chloride (as NaCl)	1
Urine	Albumin	932
	Sugar	933
	Acetone Bodies	3
	Hydrogen ion concentration	838
	Pigments	7
	Chloride (as NaCl)	1
	Bilirubin	1
	Chyle	1
	Bile Salts	1
	Diastase	2
	Urobilin and Urobilinogen	5
Faeces	Total, Split and Unsplit Fats	16
	Occult Blood	11
Duodenal Contents	Trypsin	8
Renal Calculi	Chemical constitution	10
		3,637
Functional Tests	Glucose tolerance tests	59
	Urea clearance tests	30
	Urea concentration tests	43
	Fractional test meals	25
Other Tests	Thymol turbidity test	12
		169

TABLE LXXVI.

4. Haematology.

—	Number.
Cell Counts—	
Red Cells (Total)	1,679
Red Cells (Stippled)	1,021
Reticulocytes	4
White Cells (Total)	2,429
White Cells (Differential)	1,680
Platelet Count	2
Haemoglobin	2,820
Haematocrit	784
Sedimentation Rate	96
Coagulation Time	34
Bleeding Time	33
Prothrombin Time	2
Red Cell Fragility	2
Blood Grouping (A. B. O.)	733
Blood Typing (Rh)	733
	12,052

TABLE LXXVII.

5. Parasitology.

Specimens.	Object of Examination.	Number.
Faeces	Amoebae (Cysts and vegetative)	72
	Helminth ova	265
	Helminth adults	3
Pus	*Trichomonas vaginalis*	9
Blood	*Plasmodium sps*	22
Cyst Fluid	Hydatid	1
Helminth	Identification	6
Arthropod	Identification	1
		379

TABLE LXXVIII.

6. Various Tests.

—	Number.
Aschheim Zondek Test (Pregnancy)	3
Male Toad Test (Pregnancy)	937
Rat (? Rat Leprosy)	2
Rat Baits (Efficiency)	3
	945

TABLE LXXIX.

7. Histology.

Tissues Sectioned.	Number.
Human—	
Biopsy	1,583
Post-mortem	1,671
	3,254

TABLE LXXX.

8. Medico-Legal.

Post-mortem Examinations	456
Clothing—	
Blood	118
Spermatozoa	96
Various Articles—	
Blood	13
Spermatozoa	18
Smears—	
Gonorrhoea	2
Spermatozoa	30
Swabs—	
Gonorrhoea	1
Spermatozoa	9
Scrapings, Blood	5
Tissue, Examination	35
Skull, Identification	1
Skeleton, Identification	1
	785

Attendances at Courts—

Supreme Court	30
Police Court	29
Coroner's Court	3
Other Courts	1

TABLE LXXXI.

9. Examination of Rodents.

Rodents received for examination from Brisbane City Council :—

Classification—	
Rattus norvegicus	7,707
Rattus rattus	692
Unclassified	3,924
Mus musculus	45
	12,368
Special Examinations for Plague—	
Rats fully dissected	2,802
Spleen smears examined	2,802
Rat Smears Received from Other Centres—	
Mackay	1,332
Bundaberg	724
Maryborough	234
Gympie	108
Ipswich	1,610
Sandgate	917
Wynnum	600
Meatworks (Brisbane area)	163
	5,688

No rat was found infected with Pasteurella pestis.

TABLE LXXXII.

10. Vaccines.

A. Typhoid-Paratyphoid Vaccine—204 ccs. T.A.B. Vaccine were supplied.

B. Autogenous Vaccine was prepared as follows—

From Pus	1

11. Material Supplied.

One hundred and eighty-two requisitions were supplied during the year to hospitals, private practitioners and Local Authorities consisting of 3,776 swabs, 1,664 cultures, 2,130 McCartney bottles, 236 faeces tins, 78 C.S.F. bottles, 828 Wright's capsules, 203 urine bottles, 46 blood bottles and 6 bottles of M. tuberculosis media.

Laboratory.

(*a*) *Haematology.*—The alterations to the haematology laboratory have now been completed. This laboratory provides additional working space and can now function as a self-contained and efficient unit. A great increase in the number of haematological investigations can be expected in the future and the new laboratory facilities should be adequate to meet this.

(*b*) *Histology.*—During the last six months a "Histokine" has been installed in the histology section. This instrument has proved to be a a great improvement as it saves much of the technician's time and allows biopsy reports to be sent out several days earlier than previously. In addition, improvements have been made in the technique of blocking, embedding and staining tissues, and in general, the histological technique has been considerably "streamlined." At present a new histology laboratory is under construction and should be completed in the near future. This laboratory, though small, will be compact and convenient. The removal of the histology section from the main laboratory will provide additional space for Bacteriology.

(*c*) *Serology.*—For some time it has been realised that many of the pyrexias of unknown origin occurring in this State have not been investigated as fully as is desirable and to this end this laboratory has undertaken to co-operate fully with the Queensland Institute of Medical Research. It is hoped that within a few months, a section can be established to undertake complement fixation tests for the rickettsial and some of the virus diseases occurring in Queensland. One of the senior bacteriologists is to be put in charge of this work. A deep-freeze unit has been ordered and will be installed as soon as it is available.

It is intended to commence with complement fixation tests for Q. fever, Murine typhus and North Queensland tick typhus. At present the distinction between these latter two diseases is clinical and an adequate laboratory distinction has been long needed. At present no satisfactory complement fixation antigen is available for Scrub typhus, so one must continue to rely on the Weil-Felix reaction. It is planned to introduce the complement fixation test using the antigen Lygranum for the Psittacosis-lymphopathia group and to undertake cold agglutinin tests and aggluntination tests with Streptococcus M.G. for the atypical pneumonias. When these are established it is hoped that this laboratory will undertake complement fixation tests for Influenza and the Japanese-B-like encephalitis recently identified as occurring in Queensland.

With the establishment of the Field Station of the Queensland Institute of Medical Research at Innisfail it can be expected that many more sera will be forwarded to this laboratory for examination. It is anticipated that our investigations into Leptospirosis will similarly be expanded.

(*d*) *Laboratory Diagnosis of Tuberculosis.*—Plans have been approved for a new Tuberculosis laboratory which is to be established in portion of the Female Clinic. This unit will consist of two main laboratories one of which is to contain a "walk-in" incubator and special inoculation room. Adequate accommodation for storage of normal and infected animals as well as an animal autopsy room is to be provided.

It is anticipated that this unit will be able to cope with the culture of forty to fifty specimens per day and it is hoped that good laboratory support can thus be provided for the Director of Tuberculosis.

It is considered in U.S.A. and in Scandanavia most unwise for the laboratory diagnosis of tuberculosis to be carried on to any extent in a routine laboratory as the handling of live cultures and the performance of autopsies on infected animals may constitute a considerable hazard for the technical worker.

The new laboratory is thus to be devoted solely to tuberculosis and the installation of ultra-violet light and of draught ventilation in the inoculation laboratory, as well as rigid safety precautions will, it is hoped, reduce these risks to a minimum.

(*e*) *Clinical Pathology.*—It is felt that this laboratory should share the burden of Clinical Pathology sent at present to the Brisbane General Hospital by metropolitan practitioners. It is anticipated that the volume of Clinical Pathology carried out will be considerably increased in the coming year, now that more technical staff is available.

Agglutination Tests for Fevers.

(*a*) *General.*—During the year 1,005 blood samples were submitted for agglutination tests, largely from patients with pyrexias of unknown origin. This constitutes a marked increase since only 441 sera were tested during the previous year. It is expected that still greater numbers of sera will be submitted in the future as this laboratory has undertaken to carry out all the routine investigations for the Field Section of the Queensland Institute of Medical Research.

(*b*) *Leptospirosis.*—During the year, 154 cases of leptospirosis have been diagnosed in this laboratory. Details of these are as follows:—

L. pomona	78
L. mitis	8
L. australis A.	16
L. australis B.	5
L. icterohaemorrhagiae	8
Unclassified	39

Owing to the pressure of work in the second half of last year it was not always possible to carry out full serial dilutions to distinguish *L. australis A, L. australis B,* and *L. icterohaemorrhagiae* and these unclassified cases have been grouped together. In 21 cases there was "crossing" between *L. icterohaemorrhagiae* and *L. australis B,* in 14 between *L. australis A* and *B,* and in four between all three strains. In many of these cases where therapy had commenced early, it was impossible to decide definitely which strain had caused the infection.

The geographical distribution of these cases is as follows:—

L. pomona: Gympie 33, Brisbane 15, Kyogle 7, Pomona 5, Ipswich 4, Chinchilla 3, Mackay 3, Nambour 2, Atherton 2, and one each from Babinda, Gayndah, Nanango and Gladstone.

L. mitis: Kyogle 3, Gympie 2, Brisbane 2 and Gladstone 1.

L. australis A: Babinda 10, Innisfail 5, Tully 1.

L. australis B: Innisfail 5.

L. icterohaemorrhagiae: Innisfail 5, Babinda 3.

Unclassified Strain: Babinda 20, Innisfail 14, Gordonvale 2, Mossman 1, Atherton 1.

One case was referred from Brisbane but the site of the infection is unknown.

This geographical distribution is of interest in emphasising the predominance of infections with *L. australis A.* and *B.* also *L. icterohaemorrhagiae* in the canefields in the North whilst infections with *L. pomona* and *L. mitis* have occurred predominantly in the Southern parts of the State and in Northern New South Wales. These latter cases have occurred amongst farmers, bacon factory workers and people having contact with pigs. It is interesting to note, however, that among the infections with *L. pomona* two occurred at Atherton and this is the very first record of leptospirosis due to *L. pomona* in this area. It would suggest that *Leptospira pomona* is widespread throughout the State and is likely to be found wherever dairying, pig farming and moist conditions

occur. The increase in the number of infections due to *L. pomona* and *L. mitis* may in some way be attributable to an increased awareness of the condition amongst the medical profession.

During an outbreak of fever amongst cane cutters in North Queensland 5 guinea-pigs were inoculated with blood from these patients and these animals were forwarded to this laboratory. From two of these, Leptospirae were isolated from the heart blood. As yet these two strains have not been classified.

We have been informed by the Leptospira Sub-committee of the Nomenclature Committee of the International Association of Microbiologists that the name "mitis" is invalid for the strain of leptospira isolated in Queensland in 1942 and named by Dr. Johnson. (Medical Journal of Australia, 1942, Vol. I., p. 431). This error has arisen due to the fact that the name "mitis" was used for a strain isolated previously in Italy and thought at the time to be new. It was subsequently found that this Italian strain belonged to one of those strains already identified and named. Another name for Johnson's strain has been chosen and submitted to the Nomenclature Committee for their approval. As soon as it is approved this new name will be adopted.

(*c*) *Brucellosis and Q. fever.*—During the year, sera from 18 patients were found to give a diagnostic titre for Brucella. The geographical distribution of these cases is as follows:—

Brisbane 7, Kyogle 4, Tweed Heads 2, and 1 from Chinchilla, Kingaroy, Pomona, Gympie and Mossman.

Twenty-seven cases of Q. fever were diagnosed during the year and the geographical distribution of these is as follows:—

Brisbane 21, Murwillumbah 2, and 1 each from Gympie, Mackay, Gladstone and Townsville.

The patients were predominantly Abattoir workers or people with a history of contact with cows.

It is of interest that this is the first report of Q. fever occurring in Mackay and Townsville.

A patient from Bowen, a stock inspector, was suspected of having Q. fever and although his serum was negative on 22-6-51, a diagnostic titre was subsequently obtained early in July. This case is the first record of Q. fever occurring in Bowen.

The two cases of Q. fever diagnosed from Murwillumbah are the first to be reported in New South Wales.

Recently sera were received from the Wallaceville Animal Research Station, Wellington, New Zealand. These sera were from animals recently imported from Devon, England. Of these sera 1 from a goat, "Camilla" by name, gave a diagnostic titre for Q. fever.

In conjunction with the Queensland Institute of Medical Research a survey of mixed herd samples of milk is being made for Q. Fever and Brucellosis. Samples of milk are inoculated into guinea-pigs and sera from these animals are subsequently submitted for agglutination tests. So far, of the 38 samples tested, 5 have been found positive for Brucellosis and all have been negative for Q. fever.

(*d*) *The Typhus Group.*—During the year 14 cases of scrub typhus have been diagnosed. The geographical distribution of these cases is as follows:—

Babinda, 7, Mossman, 2, Innisfail 2 and 1 each from Mackay, Gordonvale and Tully.

It is of interest that this is the first time in recent years that Scrub typhus has been reported as far south as Mackay.

There were twenty-three sera giving a diagnostic titre with Proteus OX19 during the year. The geographical distribution of these cases is as follows:—

Atherton 9, Kyogle 3, Innisfail 2, Mackay 2, Brisbane 2, Gympie 2 and one each from Mossman, Oakey and Nanango.

Of the above, some were from Murine typhus and some Queensland Tick typhus patients, but the distinction cannot at present be made in this laboratory and depends on clinical grounds or on the occupational history. Once Complement Fixation tests are established in this laboratory the distinction between Murine and Queensland Tick typhus will be able to be made with relative ease.

Visceral Granulomatous Lesions Resembling Lymphopathia Venereum Histologically.

During the last six months three further cases showing granulomatous lesions resembling Lymphopathia venereum have been found in biopsies of lymph glands submitted to this laboratory. These cases were from Cairns, Mackay and Wynnum. An opportunity was taken in the local case to examine the patient clinically and to obtain a detailed clinical history. Due to the co-operation of the practitioners treating these patients, fresh material was made available and attempts were made to recover the causative organism by mycological and bacteriological cultures and by animal inoculations. Weaned and infant mice, guinea-pigs and, in one case, a cat were employed. These animal inoculations were carried out at the Queensland Institute of Medical Research. The full range of agglutination tests, including tests with P. tularensis were performed on blood specimens from these patients but in every case the results were negative. Investigations so far have failed to reveal the aetiological agent.

In the local case it was of interest that the suppurative lymphadenitis appeared to be associated with the bite of a cat on the right hand two months previously. The local wound induced by the cat bite had been slow to heal. This association is of considerable interest since reports from France describe a disease associated with cat scratches which causes a similar granulomatous lymphadenitis. It is also of interest that an outbreak of Tularaemia in France has been associated with granulomatous lymphadenitis of a similar type and the lesions caused by Tularaemia are histologically identical with those occurring in Lymphopathia venereum.

Every opportunity will be taken to investigate fully further cases as they come to hand and it is hoped that further progress will be made in the near future in determining the nature of these interesting and not uncommon lesions.

Cerebral Calcification.

In the past, calcification of the cerebellum of sufficient extent to be noted grossly has been noted from time to time during routine autopsies. Such severe grades of this calcification appear to be extremely unusual since authorities in Europe and the United States could not recall having seen similar lesions when confronted with sections taken from our cases. In some, the calcification has been so marked as to produce a perfect outline of the dentate nucleus when tissue was examined radiologically. It is surprising to find that such gross lesions appear to be unusual in other parts of Australia.

In view of this it was decided to make a careful histological examination of some hundreds of brains obtained at autopsy and chosen without regard to age, sex or cause of death. It is hoped that by so doing some idea of the incidence and extent of cerebral calcification in this State may be obtained. This investigation was commenced recently and so far thirty-one brains have been examined in some detail.

The earliest lesions appear to consist of "colloid droplets" in the media of the smaller arteries. Later the media appears to become hyalinised and then eventually to be replaced by a complete ring of calcium. Along with this, perivascular amorphous deposits of calcium occur and in the severer grades these deposits are scattered extensively in the substance of the brain. As far as our investigation has proceeded the lesions have been found in either the cerebellum or the basal ganglia of almost 50 per cent of the brains examined. These deposits have, of course, been of varying grades of severity from the earliest trace to those grossly manifest.

It is hoped to complete this survey in the coming year and to report the findings in detail.

Nocardiosis.

In February a post-mortem examination was made on the body of a man aged 44 years who, while working as a wool-classer, sustained an injury to the right side of his head. He subsequently developed severe headache, paralysis of his left side, progressive bulbar palsy and died three weeks after the injury. An abscess of the pons was found from which a pure growth of Nocardia asteroides was obtained. A recent bronchopneumonia was present in both lungs but no lesions were seen macroscopically or microscopically which resembled the chronic pseudotuberculous process generally associated with infection by Nocardia; nor could the fungus be seen in Gram stained sections of the lung. It appears possible, therefore, that the infection may have been primarily in an area of tissue in the pons devitalised by injury.

Infections by this organism are not common, only one case having been described in Australia, though it is not unlikely that a more thorough bacteriological investigation of cases of clinical Actinomycosis and clinical tuberculosis in which M. tuberculosis cannot be cultured would reveal more cases of Nocardiosis.

Investigation of the Use of Ultra-Violet Light for Hairdressers' Instruments.

During the year an investigation into the bactericidal effect of ultra-violet light on hairdressers' instruments was carried out. A commercial ultra-violet unit was tested in a hairdresser's shop under actual working conditions and it was found that exposure of instruments to ultra-violet radiation in the intervals between use, produced a marked reduction in the number of organisms recovered as compared to instruments not exposed.

The City Morgue.

During the last four months a dictating machine has been employed at the City Morgue for autopsy reports. This machine has eliminated writing these reports by hand and has allowed of more detailed and accurate reporting since the notes can be dictated during the progress of the autopsy.

A more detailed Bacteriological investigation will be made in the autopsy room. The benefit of this is manifest particularly in cases of sudden and unexpected death in infants and young children. Virus studies on these cases have begun with the co-operation of the Queensland Institute of Medical Research.

Publications.

Derrick, E. H. and Brown, H. E. (1950): "A Survey of Human Brucellosis in Queensland," Medical Journal of Australia, Volume II, November 11th, 1950, page 709.

Johnson, D. W. (1950): "The Australian Leptospiroses," Medical Journal of Australia, Volume II., November 11th, 1950, page 724.

GOVERNMENT CHEMICAL LABORATORY.

Government Analyst and Chief Inspector of Explosives: S. B. Watkins, M.Sc., F.R.A.C.I.
Deputy Government Analyst and Inspector of Explosives: A. S. Hurwood, B.Sc., A.R.I.C., A.R.A.C.I.

The total number of samples examined during the year was 14,137. This represents a decrease of 4,703 on the record figure of 18,840 for last year.

Although there was a decrease, the professional staff was fully occupied in the work of the laboratory, as in many instances the more detailed examinations required have occupied more analytical time—this particularly applies to the analyses of coal.

The following table discloses the number of samples examined for each of the preceding ten years:—

Year.	Total Samples.
1940–41	13,063
1941–42	10,401
1942–43	10,859
1943–44	14,105
1944–45	15,434 (Record Year)
1945–46	11,875
1946–47	12,834
1947–48	13,629
1948–49	17,564 (Record Year)
1949–50	18,840 (Record Year)

Organisation.—The separate services provided for the Commonwealth Departments of Trade and Customs, and Commerce and Agriculture were unified under the Customs and Stores Section of the Laboratory. The water section is now attached to the Foods and Drugs Section under the direction of the Deputy Government Analyst.

Accommodation.—The housing of certain new equipment from overseas is an acute problem and in some instances valuable bench working space has been taken up in its installation pro tem. The crushing and grinding equipment remains in a badly ventilated upper room in the Executive Building, necessitating frequent journeys to and fro for the purpose of preparing coal and ore samples for analysis. The erection of a suitable building adjacent to the laboratory to provide relief has been recommended for some time past.

The testing of explosives should be conducted in an isolated room specially equipped for the purpose and manned only by those engaged in the work of testing. The matter is receiving the attention of the Department of Public Works.

New Chemicals in Food Processing.—From time to time the advice of the Government Analyst has been sought in connection with the use of various new chemicals for the preservation of foods or "improving" foods in certain directions, mostly to suit public fancy or to increase demand. These chemicals include antistaling compounds in bread, antioxidants in fat, antibiotics in canned foods and coal tar dyes to tickle the optics, &c.

The 1950 June editorial of "Food Technology in Australia" opened with this paragraph, "The Public Health Authorities the world over cause a lot of annoyance by their reluctance to permit the applications of the 'advances of science of food preservation,' their reaction to the proposed addition of chemicals to food being almost invariably negative. The obvious reason is, of course, that they wish to protect the public from an inferior product artificially made to appear sounder and better than it really is. Going far beyond this argument is the fear of the unknown."

The statement partly covers the problem. The public must rightly be protected as much from the unknown as the known, for often the unknown has been proved to be far from harmless when subsequently known. Though the approach to the problem is referred to as a negative one, it is only so by reason of the refusal to accede readily to these requests—it is a negation to food processors. It is, however, engendered by a positive desire to protect the public in assuring that food submitted for sale is free from substances of a questionable nature.

Even to-day the preservation of fruit juices pending their elaboration into cordials by the addition of sulphur dioxide or sodium benzoate bespoils their valuable vitamin C, besides imparting a chemical flavour which requires bolstering agents such as flavouring oils to overcome the presence of the chemicals. The approach should be rather towards improving the quality of the primary products and methods of processing. So called modern progress is at times punctuated with tragedy or raises doubts as to the wisdom of permitting the use of chemicals which may be deleterious to health. In some instances overseas approval of the use of certain chemicals has had to be withdrawn subsequently because investigations have disclosed that their continued use constitutes a menace to health. Where new chemicals or processes are being contemplated, it should be the responsibility of the sponsor to prove that the food is entirely harmless to life. This may require prolonged study by physiologists, pharmacologists and nutritionists. Their advice alone should guide the decisions of those entrusted with the care of the public health.

Food Quality.—The problem of food quality has been referred to the Government Analyst on several occasions but the Pure Food Regulations are more concerned with purity, that is, suitability for general consumption, rather than with quality. The latter factor may partly govern public choice but it is also closely linked to the household purse. Provided a food is in a sound condition and free from harmful or deleterious substances, it is suitable for human consumption—so called low quality foods may be a more economical purchase than high quality ones.

National Association of Testing Authorities.—This organisation, established by the Commonwealth Government, and having Commonwealth, State and other representatives on its Council, has as one of its principal objectives, the registration of testing laboratories covering a large number of fields of testing. Application for the registration of the Government Chemical Laboratory in the field of chemical testing was

submitted to the Registrar on 16th June, 1950, and the laboratory was inspected earlier this year by a panel of assessors. The Council of the Association has now approved of the registration of the laboratory for the following classes of test:—

7·01 Metals—ferrous and non-ferrous.
7·02 Paints, pigments, enamels, varnishes, lacquers and related materials (chemical analysis only).
7·03 Petroleum products.
7·04 Textiles.
7·05 Paper, cardboard and related materials.
7·08 Leather and allied products.
7·09 Cement—tests to chemical requirements of specification A.S. No. 2–1948.
7·10 Fuels.
7·11 Foods.
7·12 Drugs, pharmaceutical, cosmetics.
7·14 Oils, fats, waxes and related products.
7·15 Miscellaneous Inorganic Materials.
7·16 Miscellaneous Organic Materials.
7·17 Waters, sewage, effluents, and trade wastes.

The range covered by the above classes of test indicates the wide coverage of chemical work performed in the laboratory.

The following table details the number of samples examined for the respective Government Departments or otherwise:—

State—	
Health and Home Affairs	4,433
Police	200
Geological Survey Office	534
Mines	88
Irrigation and Water Supply	650
Portmaster (Explosives)	1,887
Local Government	153
Main Roads	151
State Stores	271
Public Works	571
Tile Testing Station	695
Railways	34
Others	127
Commonwealth—	
Trade and Customs	2,297
Commerce and Agriculture	1,183
Others	104
Brisbane and South Coast Hospitals Board	229
Medical Profession	79
Public	451
	14,137

Section 1.

Foods, Drugs, and Waters.

Staff.—A. S. Hurwood, B.Sc., A.R.I.C., A.R.A.C.I., Deputy Government Analyst, Officer-in-Charge.

Foods and Drugs: H. G. Dunstan, B.Sc., A.R.A.C.I., Senior Analyst Division II.; G. Lahey, M.Sc., A.R.A.C.I., Analyst; J. V. Foreman, B.Sc., Analyst; J. C. Yule, B.Sc., Dip.Ind.Chem., Analyst.

Waters: W. N. Carvosso, A.R.A.C.I., Dip.Ind.Chem., Analyst; J. T. Williams, Temporary Analyst.

TABLE LXXXIII.

Showing the Number and Source of the Samples Examined.

Department	No. of Samples
Health and Home Affairs	3,826
Irrigation and Water Supply	650
Other Departments	279
Local Government	131
Public	262
	5,148

TABLE LXXXIV.

Summary of Samples of Foods and Drugs examined for the Department of Health and Home Affairs.

Nature of Sample	Number of Samples	Passed	Failed
Beverage or cordial	241	110	131
Bread	154	95	59
Cereal	78	66	12
Condiment	21	7	14
Disinfectant	59	35	24
Drug or medicine	75	52	23
Essence	8	5	3
Fish—tinned	61	28	33
Flock or fibre	70	34	36
Fruit or fruit juice	20	11	9
Jam or jelly	27	11	16
Meat	41	28	13
Milk—official	1,695	1,337	358
Milk—unofficial	357	320	37
Milk product	28	17	11
Paint	56	24	32
Spirituous liquor	81	38	43
Tobacco	148	86	62
Toy	54	26	28
Vegetable	5	2	3
Miscellaneous	369	201	168
Totals	3,648	2,533	1,115

The samples classed as failed include samples not conforming with prescribed standards and samples falsely described and incorrectly labelled.

The miscellaneous samples included refrigerator tray, baking dish, crown seal, septic effluent, confectionery, fat and oil.

The high proportion of failures with most of the foods other than milk, is due to the fact that it is largely the lines of doubtful purity that receive the attentions of the Health Inspector. The high proportion of failures recorded is therefore no indication of the true position on the market.

It is otherwise with milk, where the sampling is more general and the position disclosed would give some indication of the state of the milk supply.

TABLE LXXXV.

Details of Legal Samples taken by Inspectors in accordance with the Provisions of "The Health Acts, 1937–1949."

Nature of Sample	Number Examined	Passed	Failed
Milk	1,695	1,337	358
Spirituous liquor	33	7	26
Paint	22	13	9
Bread	12	7	5
Fruit drink	10	2	8
Sausage	8	5	3
Minced meat	6	1	5
Miscellaneous	12	2	10
	1,798	1,374	424

The miscellaneous samples include toy (4), fruit concentrate (2), arsenate of lead (2), cake (1), cream (1), antiseptic (1), and insecticide (1).

TABLE LXXXVI.

DETAILS OF LEGAL SAMPLES OF MILK.

Place.	Number of Samples.	Passed the Standard.	Below the Standard in Fat.	Below the standard in Total Solids and/or solids not Fat only.	Number of Watered Samples.	Proportion of watered Samples, per cent.	Average proportion of added water, per cent.
Greater Brisbane	732	641	33	11	47	6	8·9
Bundaberg	43	32	2	..	9	21	4·8
Caboolture	16	14	1	..	1	6	8·0
Cairns	61	41	..	1	19	31	9·7
Childers	9	5	2	2	..	..	..
Cleveland	10	9	1	..	..	..	..
Gladstone	16	12	2	2	..	..	..
Gympie	10	10	..	..	..	..	..
Ipswich	128	106	10	9	3	2	7·3
Kingaroy	20	15	2	..	3	15	8·3
Mackay	35	33	1	..	1	3	3·0
Maryborough	40	29	1	1	9	22	8·9
Merrimac	5	2	3	..	..	..	..
Nambour	47	39	..	1	7	15	6·7
Redcliffe	31	29	2	..	..	..	..
Rockhampton	143	103	23	2	15	10	10·5
South Coast	26	24	1	1	..	..	..
Townsville	76	38	16	4	18	24	9·0
Toowoomba	132	107	17	7	1	1	3·0
Warwick	26	20	3	3	..	..	..
Western Districts	69	28	41	..	..	..	..
Woodford	20	..	3	2	15	75	6·5
	1,695	1,337	164	46	148	8·7	8·5

TABLE LXXXVII.

SUMMARY OF TABLE LXXXVI.

	Percentage of Total Samples.
Adulterated with water	8·72
Deficient in fat	9·68
Below standard in total solids and/or solids not fat only	2·72
Passed the standard	78·88
	100·00

TABLE LXXXVIII.

MILK SAMPLES TAKEN IN GREATER BRISBANE.

Year.	Number of Samples.	Proportion of Total Samples.	Proportion Adulterated with Water.
		Per cent.	Per cent.
1943–44	1,575	78·5	2·1
1944–45	1,666	79·4	2·9
1945–46	1,411	66·7	1·1
1946–47	1,358	62·7	2·2
1947–48	1,261	55·2	1·6
1948–49	1,221	49·3	1·7
1949–50	1,154	53·0	1·7
1950–51	732	43·2	6·5

TABLE LXXXIX.

SHOWING THE AVERAGE FAT CONTENT OF THE LEGAL SAMPLES OF MILK IN WINTER AND SUMMER IN TOWN AND COUNTRY.

Number of Samples.	Greater Brisbane or Country.	Season.	Months.	Average Fat Content.
1,695 ..	Both	Over all	January–December ..	3·90
301 ..	Brisbane	Summer	October–March	3·82
506 ..	Country	ditto	ditto	3·80
807 ..	Both	ditto	ditto	3·81
159 ..	Brisbane	Winter	July–September	3·78
265 ..	Country	ditto	ditto	3·81
424 ..	Both	ditto	ditto	3·80
272 ..	Brisbane	ditto	April–June	4·17
192 ..	Country	ditto	ditto	4·12
464 ..	Both	ditto	ditto	4·15

Note :—" Country " in this table means outside the Greater Brisbane Area.

TABLE XC.

MILK POSITION COMPARED WITH PREVIOUS YEARS.

Year.	Number of Legal Samples.	Deficiency in Fat.	Below the standard in Total Solids and/or Solids not Fat only.	Watered Samples.	Added Water (Average).
		Per cent.	Per cent.	Per cent.	Per cent.
1943–44	2,005	2·7	14·0	4·4	11·0
1944–45	2,099	3·7	12·4	4·5	12·0
1945–46	2,116	3·2	11·7	4·0	8·0
1946–47	2,166	2·4	17·7	4·4	10·0
1947–48	2,283	1·8	7·4	2·5	10·0
1948–49	2,476	9·4	4·0	4·3	10·0
1949–50	2,179	9·6	3·5	3·1	9·0
1950–51	1,695	9·7	2·7	8·7	8·5

Milk.

The following observations were made from a survey of Tables LXXXVI., LXXXVII., LXXXVIII., LXXXIX and XC.

Of the official milk samples submitted for examination 43·2 per cent. came from the Greater Brisbane area and 56·8 per cent. from the rest of Queensland. There was a marked decrease in the number of samples submitted from the Greater Brisbane area, and a marked increase in the proportion of adulterated samples from this area.

The proportion of milks adulterated with water showed a steep rise in recent years being 6·5 per cent. in the Greater Brisbane area and 10·5 per cent. outside this area. This increase is more apparent than real due to more selective methods of sampling.

From the combined Townsville and Cairns districts, there were 37 watered milks from 137 samples examined, in striking contrast to the freedom of watered milk from these centres of recent years.

The average fat content of the milks was 3·9 per cent., slightly below that of last year, 3.96 per cent., and the year before 3·98 per cent.

About one sample in every ten contained less than the prescribed minimum (3·3 per cent.) of fat suggesting that skimming is still practised to some extent.

Bread.

A white bread quality survey was carried out in January and February. Two roll-loaves of bread from each of 66 bakehouses were examined with results shown in Table XCI.

TABLE XCI.

QUALITY SURVEY OF WHITE BREAD IN BRISBANE—JANUARY–FEBRUARY, 1951.

Quality.	Number.	Percentage.
Very good	4	6
Good	34	51
Fair	26	40
Poor	2	3
Total	66	100

Those breads classified as of fair quality were open to considerable improvement, the chief faults being underbaking, flour streaking and discolouration of crumb.

A number of breads incorrectly described as "starch reduced" was examined. These breads had been prepared from flour milled from specially selected wheat of comparatively high protein content, but were not starch reduced.

Flour.

The white flours and the wholemeal flours from the several mills in Brisbane were examined regularly with satisfactory results.

The description "starch-reduced" which has been for some years wrongly applied to flour milled from high protein wheat is now being replaced in the trade by the more suitable expression, "protein-rich." It should be realised, however, that protein-rich is a comparative term, and protein-rich flour, to be true to label, must be flour of comparatively high protein content. A maximum protein content of 14 per cent., a minimum of 10·5 per cent., and a mean of 11·6 per cent. have been obtained from Queensland flours examined in this laboratory in the last three years.

Meat.

The position regarding preservative in minced meat does not improve. Out of six samples examined, five contained the preservative substance sulphur dioxide in proportions varying from 1·7 to 6·5 grains to the pound.

A complaint sample of minced meat contained small sharp claw-like particles of hard cartilaginous material, identified as conical papillae from the back of the tongue of an animal, probably a calf. Such material should be discarded by the butcher as unfit for human consumption.

Following complaints from the public regarding the excessive loss in weight of sausages on frying, samples from twelve butcher shops were examined and the composition range of the samples is shown in Table XCII.

The standard for sausages requires the presence of not less than 75 per cent. meat (including fat) and not more than 6 per cent. starch. Five of the twelve samples examined contained less than this prescribed minimum of meat. The fat content of the sausages varied from 17·7 to 33.8 per cent. The loss in weight on frying varied from 13 to 40 per cent., and in general followed the fat content, the higher the fat, the greater the loss in weight of the sausage.

The average loss in weight of a sausage on frying is about 20 per cent. A loss in weight up to 25 per cent. might be accepted as reasonable but anything above that figure would be excessive.

TABLE XCII.

COMPOSITION OF SAUSAGES.

Meat (per cent.)	65·3 to 88·9 (including 17·7 to 33·8 per cent. fat)
Common Salt (per cent.) ..	0·3 to 2·0
Added water (per cent.) ..	8·5 to 30·7
Farinaceous substance and seasoning (per cent.) ..	1·6 to 3·4
Preservative (sulphur dioxide)	Nil to 7·0 grains per pound.

Crystals in Canned Lobster.—The presence of glass-like crystals in canned lobster is again recorded, following a number of complaint samples examined. The glass-like fragments were crystals of magnesium ammonium phosphate formed in the can from the naturally occurring food chemicals of the fish itself. The presence of such crystals in canned fish, although seldom recorded in the past, would now appear to be of fairly common occurrence.

The crystals, if small, are harmless, being undetected by the consumer.

Many of the crystals in the samples examined were 6 to 8 m.m. in length and such large crystals could easily cause damage to the mouth.

Canned fish showing any marked crystal growth should be rejected as unfit for human consumption.

Caffeine in Beverages.—Samples of the two most popular Kola drinks on the market yielded caffeine at the rate of 1.1 grains to the pint.

An infusion of a popular brand of tea yielded caffeine at the rate of 1.7 grains to the pint. This brew was prepared using two level teaspoonsful to the pint and there was no difference in the caffeine content of the tea between the 5-minute and the 10-minute infusion.

Light Wines.—Four light wines examined had the composition shown in Table XCIII.

TABLE XCIII.

COMPOSITION OF SOME LIGHT WINES.

Variety of Wine.	Proof Spirit.	Extract.	Ash.
	Per cent.	Per cent.	Per cent.
Hock	18·8	1·4	0·23
Chablis	20·4	1·8	0·26
Burgundy	21·2	2·1	0·45
Claret	20·8	2·3	0·45

"Dynamited" Fish.—A number of fish killed for control purposes, with the aid of explosive, was examined. The most pronounced effects were rupture of the air or swim bladder, rupture of spinal membrane and blood vessels, and the presence of free blood in the abdominal cavity and in the flesh.

These effects might be accepted as criteria in the recognition of fish killed by explosive shock.

Accuracy of Medicine Glasses.—Under the caption, "Faulty medicine glasses," a Brisbane newspaper recently published a statement to the effect that because of incorrect calibrations, some medicine glasses were a potential danger to the public, where the measurement of dangerous drugs was concerned.

The various types of medicine glasses were examined for accuracy of markings and no serious errors of calibration were found.

The shape of the common medicine glass leaves much to be desired. At the frequently used "teaspoonful" level, the medicine is too low in the glass and the surface too wide for accurate measurement. This applies more to the two ounce glass than to the one ounce glass.

The ideal medicine glass is the small dispensing glass with its tapering base. Here, the teaspoonful and tablespoonful levels are well up the glass and can be read with ease and accuracy.

Boric Acid in Lactose.—A small batch of a well-known brand of Lactose (Sugar of Milk) was found to be heavily contaminated with boric acid. Fifteen samples in all were examined, three containing boric acid in quantity.

Boric Acid as Food Preservative.—A proprietary line consisting of a mixture of boric acid (93 per cent.) and alkali borate (7 per cent.) and claiming value as a food preservative was condemned as unfit for use in food.

Because of its toxic nature, boric acid has been prohibited from use as a preservative in foodstuff for many years, following the recommendation of a British Departmental Committee as far back as 1924.

Boric acid finds a place in many medicine cupboards and few people are aware of its poisonous nature. It should always be properly labelled and kept out of the reach of children.

"Travel Sickness" Drugs.—The consumption of proprietary lines of tablets and capsules claiming value for the prevention or relief of travel sickness is increasing.

Of six such lines examined, the potent principle and amount per tablet or capsule was as follows:—

1. Promethazine 8-Chlorotheophyllinate 25 mgm.
2. Hyoscine Gr. $\frac{1}{630}$. Hyoscyamine Gr. $\frac{1}{160}$.
3. Hyoscine Gr. $\frac{1}{220}$.
4. Hyoscine Gr. $\frac{1}{325}$ Atropine Gr. $\frac{1}{650}$. with benzocain and phenobarbitone.
5. Brom valetone Gr. 5.
6. Chlorbutol Gr. $1\frac{1}{2}$.

"Cures" for Drunkenness.—Two preparations claiming effectiveness in the treatment of drunkenness were examined.

One was a powdered mixture of potassium meconate (14 per cent.), Lactose (76 per cent.) and Sodium Sulphate (10 per cent.), having little, if any, value for the purpose claimed.

The second was in a different category and contained in tablet form the potent restricted drug tetraethyl thiuram disulphide, commonly known as antabuse.

Antabuse is said to produce a definite hypersensitivity to alcohol, and should be taken only under close medical supervision.

Tobacco and Cigarettes.—148 samples of cigarettes, cigars and tobacco, chiefly from the King's Warehouse, were examined. Some were condemned, because of mould or insect attack, as unfit for smoking.

One large batch of cigarettes showed a 20 per cent. spoilage through dampness and subsequent mould. The water content of these cigarettes varied from 13·5 per cent. in the normal sound pack to 30·9 per cent. in the very mouldy pack. Those cigarettes with a soft, spongy, limp feel but showing no mould had a water content from 15 to 20 per cent., and those exhibiting first stages of mould growth a water content of 22 per cent.

The normal sound cigarette weighed from 16 to 16·5 grains; the soft limp cigarette, through dampness, from 17 to 18·5 grains; and the very mouldy cigarette, through decomposition, from 14·8 to 15 grains.

Bedding and Upholstery Filling Material.—Of 70 samples of flock, fibre, kapok and cotton linters examined, 36 failed to attain the standard of cleanliness required by the Bedding and Upholstery Regulations of 1948. Thirteen (13) samples showed excess chlorine, 13 excess ammonia, 16 excess turbidity and 8 excess oxygen absorbed, a number of the samples failing on more than the one count.

Miscellaneous.—An opened can of beans was submitted for examination. with the complaint that it contained maggots. The small white grub-like particles which were present in quantity were detached radicles from partly germinated beans and the sample was fit for human consumption.

Quality certificates were issued to several firms covering export shipments of white flour (10), cake mixture (14), and marshmallow mixture (1.)

Twelve samples of butter from different factories in Queensland were examined. All were of good quality and varied in fat content from 81.2 to 82.9 per cent., the average being 81.9 per cent.

A sample of cream contained formaldehyde at the rate of 6 parts per million, the first time for years this prohibited preservative has been found in a foodstuff.

Of 33 legal samples of spirituous liquor, 26 failed to attain the standard in spirit strength. The highest adulteration was in a rum which showed 38 per cent. excess water. The average adulteration in the samples that failed was 7 per cent. excess water.

Seventy-nine samples of soap were examined for the Brisbane General Hospital. This Institution manufactures its own laundry soap and assistance from this laboratory has helped to improve the quality of the soap.

Samples submitted as diabetic rolls and diabetic chocolate contained too much starch and too much sugar respectively to warrant the descriptions.

A sample of dessert powder examined contained sodium alginate as setting agent.

A sample claiming value as a rust remover was a 10 per cent aqueous solution of hydrofluoric acid.

There was the highest number of complaint samples for years concerning filth in foodstuff. Dirty milk bottles were common and there was a number of cases of foreign matter in bread, milk and other foodstuff.

A beer filter was condemned because of cadmium plating.

Phosphoric acid is now unofficially tolerated as acidulant in summer drinks, because of the shortage of "fruit" acids. A number of summer drinks examined yielded free phosphoric acid in proportions up to 0·1 per cent.

Advice was sought on the use of fluorides in toothpaste and mouth washes for the combat of dental carics. A study of recent literature would suggest that evidence adequate to justify the administration of fluorides, by inclusion in dentrifices or mouth washes, is lacking. Sodium fluoride is a highly toxic substance and while its application in safe concentration and under strict control by competent personnel may prove to bc useful therapeutically, under other circumstances it can readily prove harmful.

Strychnine was found in a sample of milk, phenobarbitone in a cocoa beverage, and the mixed alkaloids of strychnine and brucine in a sample of wine.

Of 15 samples of Solution of Hydrogen Peroxide examined 3 conformed with the standard (20 volume) of the British Pharmacopoeia of 1948, 7 conformcd with the standard (10 volume) of the British Pharmacopoeia of 1932, and 5 did not conform with either standard, being deficient in the proportion of hydrogen peroxide required to be present. One sample was alkaline in reaction and decomposing and the bottle was under a dangerous gas pressure. Solution of Hydrogen Peroxide of 10 volume strength is permitted in Queensland.

A sample of polyethylene stearate claiming value as an antistaling agent in bread was examined. The addition of such compounds to bread is not permitted in this State.

The position as regards spray residues on fruit and vegetables was apparently satisfactory considering the few samples submitted for examination.

In a sample of whisky grossly adulterated with water, the added water was shown to be of Brisbane tap water origin, and not tank water as suspected.

Samples of foods and drugs examined for Government Departments other than the Department of Health and Home Affairs numbered 142 and 85 samples were submitted direct from the Public.

Waters.

There has been no curtailment of demands for water examinations—in fact with the drier season the reverse has operated. The two analysts engaged in the work have been fully occupied. The following table indicates the number of samples for the relevant authorities:—

Health and Home Affairs	178
Irrigation and Water Supply	650
Local Government	131
Other Departments	137
Public	177
Total	1,273

Samples from the public are accepted only if they are in the interests of the man on the land who is concerned with water for domestic purposes or human intake. Attention has been directed to the estimation of nitrates in water intended for human consumption as investigations in the United States have indicated that water carrying more than 10 parts per million of nitrogen as nitrates may have a deleterious effect on infant health. Of interest is the noticeable increase in nitrogen levels in samples of ground water during the past two years. It is possibly due to the heavy leaching of the soils occasioned by the persistent rains over this period.

Problems associated with the disposal of trade wastes and bottle washing effluents have required attention during the year. No standards for their disposal have been established in this State, each problem being investigated in relation to existing conditions.

Some concern was occasioned when washing-up water suddenly turned purple during this household routine. The phenomenon was due to residues in a medicine glass from which a prior dose of a proprietary purgative containing phenolphthalein had been taken.

Section 2.

Toxicology, Biochemistry and Industrial Hygiene.

I. L. B. Henderson, B.Sc., A.R.A.C.I., Officer-in-Charge

M. J. Guyder, B.Sc., Senior Analyst, Division II.

The total number of specimens submitted to this section for examination was 1,031.

Police Department.

Specimens submitted by this Department during the year numbered 200, of which 123 were in connection with 36 post-mortem examinations.

Poisons found included arsenic (1), strychnine (4), barbiturates (6), kerosene (1) and A.P.C. powders (1). The remaining 23 post-mortem examinations did not disclose any poison.

Animal poisonings involving 23 examinations were also investigated.

Other specimens examined included stomach washings, drugs, medicines, ether, paint, petrol, wine and disinfectants.

Evidence was given in Court when required.

Biochemistry.

The nature, significance and number of specimens submitted by the Department of Health and Home Affairs, Hospitals and medical practitioners is shown in the following table:—

Nature of Specimen and Significance.	Number of Specimens.
Blood and/or Urine for alcohol, ether or other drugs..	118
Urine for lead, mercury, &c.	173
Hair, nail and urine for arsenic	99
Miscellaneous	90
Total	480

Miscellaneous specimens included drugs, vomitus, stomach washings, blood, urine, lungs, faeces, urinary calculi, &c.

A number of the hair and urine specimens examined were for the Director of Industrial Medicine and were from men in contact with arsenic in the skin and hide industry. The following table relates to employees in this industry:—

Arsenic content in parts per million—As_2O_3.

Nature of Specimen.	Number.	Maximum.	Minimum.	Average.
Hair	26	360	7	84
Urine	44	0·80	0·01	0·28

Controls on sixteen clerical workers showed:

Hair—Average, less than 0·5 parts per million.

Urine—Average, 0·03 parts per million (maximum 0·06, minimum 0.005).

In a case of acute arsenical poisoning following accidental ingestion of weed-killer, the following figures were obtained on urine specimens submitted by the hospital concerned:—

Time after ingestion in weeks.	Arsenic (As_2O_3), parts per million.
1	14·5
2	1·5
3	0·5
4	0·5
6	0·4
8	0·3
12	0·2

Thus, contrary to many text-book statements, the urine content was well above the normal value twelve weeks after ingestion. Further specimens were not submitted by the hospital.

Industrial Hygiene.

A total of 351 samples were examined, comprising 206 dust samples, 132 air and gas tests and 13 miscellaneous.

Technical assistance was given the Director of Industrial Medicine on the following matters:—

(1) Dust and ventilation surveys were made in mines at Baralaba, Blair Athol, Callide, Mt. Morgan and Mulgildie.

(2) Possible dust hazards were investigated at a sawmill and also in a coal crushing and screening plant at a Brisbane power-house.

(3) Ventilation tests were conducted at a lead-melter, a can-making plant and an air-conditioning system.

(4) Tests for noxious gases were made at Scottville and Westfalen collieries and also in a city drainage excavation.

(5) A Brisbane engineering company has recently installed a degreasing plant using trichlorethylene as solvent. Tests were conducted to ascertain whether toxic concentrations of this highly narcotic vapour were disseminated into the atmosphere.

Section 3.

Mining, Mineralogy, Metallurgy and Explosives.

Staff: V. R. Cundith, B.Sc., A.R.A.C.I., A.M.Aus.I.M.M., Officer-in-Charge; D. Mathers, M.Sc., A.R.A.C.I., A.M.Aus.I.M.M., Senior Analyst, Div. II.; T. R. Lowth, B.Sc., A.R.A.C.I., A.M.Aus.I.M.M., Analyst; K. Deasy, B.Sc., (Hons.), Analyst; H. Couper, Diploma Industrial Chemistry, Acting Assistant Analyst; D. Lecky, Cadet.

Samples examined:—3463.

The table shows the sources of work done by this Section and the number of samples from each:—

Department.	Number of Samples.
Geological Survey and Mines Department	593
Portmaster (Explosives)	1,887
Other Departments	803
Public	180
	3,463

The total number of samples (3,463) is greater than that for the previous year.

Mines Department and Geological Survey.

In addition to the usual assays for gold and silver, amalgamation and cyanidation tests were also carried out.

Samples of ore were examined for estimation of copper, cobalt, nickel, tin, tungstic anhydride, antimony, arsenic, chronium, manganese, zinc, &c.

Fire tests were made on 29 clays to determine their suitability for the manufacture of tiles, bricks and refractories.

The testing of coal (261 samples) requires the full-time service of two Analysts, the work entailing proximate and ultimate analyses, ash analyses, calorific value, specific gravity, swelling index, washability tests, and fusion point of ash.

Analytical service is also provided for the Coal Board, samples being submitted through the Geological Survey Department.

Samples of Stannite concentrates from the Sardine Tin Mine, Kangaroo Hills, North Queensland, were submitted for analysis. A typical sample showed:—

Copper (Cu)	26·8 per cent.
Tin (Sn)	24·9 per cent.
Arsenic (As)	0·45 per cent.
Bismuth (Bi)	0·36 per cent.

A reference to this mineral is made by the Government Geologist in the Jubilee number of the Queensland Mining Journal—June, 1950.

Three samples of serpentine submitted by Mr. Wilkinson, B.Sc., Geologist, in connection with his examination of Mary Valley serpentines assayed:—

	1	2	3
Silica (SiO_2) (per cent.)	47·40	40·0	40·1
Alumina (Al_2O_3) (per cent.)	0·43	1·09	1·83
Ferric Oxide (Fe_2O_3) (per cent.)	6·12	8·21	6·04
Ferrous Oxide (FeO) (per cent.)	0·99	1·22	2·32
Magnesia (MgO) (per cent.)	29·90	34·2	35·6
Lime (CaO) (per cent.)	0·50	1·2	0·49
Soda (Na_2O) (per cent.)	Trace.	Trace.	Trace.
Potash (K_2O) (per cent.)	Trace.	0·07	0·05
Water below 120°C. (per cent.)	3·70	2·01	1·51
Ignition loss (per cent).	10·52	11·59	11·72
Titanium Oxide (TiO) (per cent.)	0·02	0·03	0·016
Phosphorus Pentroxide (P_2O_5) (per cent.)	0·005	0·007	0·015
Nickel Oxide (NiO) (per cent.)	0·39	0·33	0·46
Manganese Oxide (MnO) (per cent.)	0·065	0·14	0·10
Chromic Oxide (Cr_2O_3) (per cent.)	0·41	0·41	0·38

An electric furnace operating to temperatures round 1,350° C. was received during the year. Besides the testing of clays, it will find application for other purposes.

The receipt of an electric muffle (already in use) with the delivery of a Combustion Furnace for the ultimate analyses of coal, and a Calorimeter expected later in the year (1951), will greatly assist the output of coal work.

Other Departments.

The consultative and analytical work from Government Departments covered a range of industrial products—metals, concrete, paper, cement, asbestos, piping, galvanised iron, &c.

In connection with corrosion problems, a number of samples received from overseas

shipments were found to be damaged by rust and mildew. After the experience gained during the War, it is surprising that greater use is not made of sulphate- and chloride-free packings, airproof linings, corrosion inhibitors and silica gel as a protection against mildew and sweating.

The colouring matter of 695 concrete tiles submitted for test conformed with the specification.

The application of coloured lacquers containing synthetic resins, and tung oil, together with the use of clear lacquer applied to barred in and sprayed on colour cement slurry has extended. This practice is used to counter the fading of colour, tendency to lime efflorescence and fungal growth on the tiles.

Although no performance data is available, it is reasonable to expect a fair degree of protection with the class of lacquer used.

Experiments were made for the Deputy Director of Health and Medical Services using thermocouples to gauge the efficiency of sterilisation of bulk medical packings under autoclave treatment.

Analyses of concrete and cement asbestos were made to determine causes of corrosion, corrosion resistance and compound composition of the cement bind.

Inflammable Liquids and Gas.

The usual service was provided in the examination of tankers, tanker wagons and oil containers to determine the presence of toxic or dangerous proportions of inflammable gas prior to entry for cleaning and repairs.

An explosion which damaged over 100 yards of footpath was found to be due to an ignition of petrol vapour which had diffused through loosely packed roadway filling and water-pipe trenching. The ignition source was an oxy-acetylene torch being applied to a tram rail.

Mr. Mathers visited Bajool to inquire into the circumstances leading to an explosion which occurred during the fumigation of wheat with carbon bisulphide. "The Poisons (Fumigation) Regulations, 1949" (under "*The Health Acts,* 1937 *to* 1948") deal with the storage of Carbon Bisulphide and its use in fumigation. Section 6 (*a*) of the Regulations reads:—

> "No person shall carry out fumigation in the area of a Local Authority unless and until he holds and can produce upon the demand of an inspector an "Authority to Fumigate" duly issued by the Local Authority in Form B of the Schedule hereto. . ."

An assessment was made of the hazards incidental to the ripening and colouring of bananas with coal gas, and a report furnished to the Manager of the Committee of Direction of Fruit Marketing on the findings.

Explosives.

Towards the close of the preceding financial year, certain amendments were made to those sections of the Explosive Regulations of 1908 which covered the transport of explosives, including additional provisions to be observed in the carriage of explosives on petrol or oil-driven vehicles. New Regulations cited as "The Fireworks Regulations of 1950" were also gazetted to effect better control of the importation, manufacture, storage, transport and sale of fireworks, and a reclassification of explosives of Class VII (fireworks) introduced with a view to liberalising the storage and sale of "shop-goods" fireworks featured during celebrations concerned with Guy Fawkes Day and the advent of the New Year.

Consequent on this reclassification, amendments of the Regulations relating to the magazining of explosives were effected in September, 1950. In these, a distinction was drawn between the strict conditions imposed whilst keeping explosives other than "shop goods" fireworks (Division 3 of Class VII.) and the latter. Further amendments had to be effected to the Regulations, bearing on license fees, and these were gazetted early in 1951. Provision was made to increase from 2s. 6d. to 5s. the annual license fee for small magazines carrying a maximum of 200 pounds of nitro compound and 500 detonators, whilst the annual fee for a magazine carrying more than 500 pounds of "shop goods" fireworks was fixed at £1. Any lesser quantity could be stored without a license provided they were kept in accordance with the relevant conditions set down in Regulation 77.

The following explosives were added to "the List of Explosives" issued under the Classification of Explosives:—

Class III. Nitro Compound: Division 1—Semigel. Division 2—Commercial Waterproof Primers.

Class VI. Ammunition Division 3—Gasless Delay Detonators,

whilst the following not previously gazetted were covered:—

Class III. Nitro Compound Division I.—Quarry Monobel, A.N. Ligdyn, Dynobel No. 2, S.N. Gelatine Dynamite.

Many inspections covering fireworks of Division 3 of Class VII. were made on the wharves prior to admission to the State. The only lines refused admission were "Smoke and Voice," a Chinese line in which arsenical compounds are present in the explosive composition. This firework emits a yellow smoke carrying vapourised arsenical compounds hazardous to health.

Samples examined—1,887.

The following table details the type, source and the quantity of explosives imported into Queensland for the year ended 30th June, 1951:—

Type.	Australian.	Overseas.
	Cases.	Cases.
Blasting gelatine	30	..
A.N. gelatine dynamite "75"	9	..
60% gelignite S.N.	1,240	..
A.N. gelignite "60"	20,328	..
A.N. gelignite "50"	11,637	..
Ajax	14,196	..
Quarry monobel	4,365	..
Semigel	1	..
40% Ligdyn S.N.	1,994	..
A.N. Ligdyn "40"	150	..
Monograin	1,300	..
Geobel No. 2	5,608	..
Blasting powder	450	..
Fuse powder	1	..
	61,309	Nil

DETONATORS.

	Australian Number.	Overseas Number.
No. 6 detonators	1,600,000	..
Electric detonators No. 6 x 54″ ..	50,150	..
Electric detonators No. 6 x 72″ ..	630,000	330,000
Electric detonators No. 6 x 120″ ..	25,000	..
Electric detonators No. 8 x 12″ sub-marine	1,400	..
Electric detonators No. 8 x 72″ sub-marine	1,000	..
Delay action detonators 144″ ..	..	6,951
Mount Isa type delay fuses 144″ ..	..	10,000
Mount Isa type delay fuses 168″ ..	..	34,000
	Feet.	Feet.
Blue fuse	4,284,000	..
Plastic cordtex	..	298,000

No explosives were condemned during the year.

Inspection of Magazines.

Sites and magazines were examined or selected at Coondoo Creek, Traveston, Stanthorpe, Beerburrum, Ipswich, Brisbane and district.

SECTION 4.

FEDERAL DEPARTMENTS, STATE STORES, MAIN ROADS, PUBLIC WORKS, &C.

Staff:—J. ADAMSON, A.R.A.C.I., Senior Analyst, Officer-in-Charge; R. S. POTTER, A.R.A.C.I., Senior Analyst, Division II.; R. C. LUKEY, B.Sc., Analyst; F. ESDALE, Assistant to Analysts.

The total number of samples examined by this section was 4495. The following table details the samples examined by the section:—

Customs	2,103
Commerce and Agriculture	1,183
Public Works Department	556
State Stores Board	271
Explosives (Fireworks)	194
Main Roads	147
Railways	32
Public	9
	4,495

During the year, the work done for all Federal Departments was brought under the control of this section.

The usual examinations and analyses were carried out for the Federal Customs and the Department of Commerce and Agriculture.

The number of paints submitted by the Public Works Department showed a marked increase on the previous year, and generally the quality of the paints was satisfactory.

The work for the State Stores Board, Railways and other departments was similar to that done in previous years.

The examination of imported fireworks was again carried out by this section and with the exception of a few cases containing arsenical compounds, their condition was satisfactory.

In concluding this report, I desire to submit a brief historical reference to the earlier history of the laboratory, being prompted to do so by the death of Mr. J. B. Henderson on 20th October, 1950, aged 81 years. For 43 years, the Government Chemical Laboratory was very closely interwoven with the official life of the late J. B. Henderson who was appointed Government Analyst on 14th June, 1893, and who directed the affairs of the laboratory until his retirement from the Public Service on 30th June, 1936. The laboratory, originally a one-professional-man unit with a messenger, and an annual intake of about 500 samples, was housed in the building now occupied by the State Children Department under the aegis of the Mines Department. In July, 1905, the laboratory was transferred to a new location in the Executive Building where accommodation was more liberal and conditions more suitable, and in the latter part of 1906 was attached to the Treasury Department. The report of the Government Analyst for the year ending 30th June, 1907, indicated that samples were submitted by the following Government Departments:—Health, Police, Inland Revenue, Port Office, Geological Survey Office, Mines, Railways, Stores, Works, Home Secretary, Hydraulic Engineer, several other State Departments, Customs and Defence Forces, as well as the Public.

With characteristic breadth of vision and faith in the value of a unified chemical service for the Government, J. B. Henderson in these initial twelve years developed a laboratory which continued to expand in the succeeding years, becoming the largest individual service of its kind in the Commonwealth. In more recent years, several other States have centralised their chemical facilities.

With the passage of time and the increase in demands, the existing facilities in the Executive Building became inadequate and in August, 1935, the laboratory was transferred to more commodious quarters in the newly-erected extensions to the building of the Department of Agriculture and Stock in William Street, and placed under the Department of Health and Home Affairs. On the 30th June, 1936, at the conclusion of the official year of the laboratory's transfer, Mr. Henderson retired from the Service.

In addition to being the Government Analyst, he was appointed Chief Inspector of Explosives in 1906 and was mainly responsible for drafting the Explosives Act of 1906 and the Explosives Regulations of 1908. On two occasions he was President of the Royal Society of Queensland and played a prominent part in the establishment of the University of Queensland. He served as a nominated member of the first Senate from 1910 to 1916 and there after until his retirement as an elected member. He published a number of papers on chemical subjects, often conjointly with members of the staff. The most important of these papers was that concerned with the Freezing Point of Milk which appeared in the 1913 Proceedings of the Royal Society of Queensland under the joint authorship of himself and L. A. Meston. Queensland was the first State to adopt legally this method for the estimation of added water in milk which is now of world-wide interest. The Order of the British Empire was bestowed on him for services rendered during World War I.

Finally, appreciation is expressed of the loyal support and service rendered during the year by all members of the Staff.

SECTION OF SOCIAL SERVICES.

Welfare Officer: Mrs. V. Wills.

The duties carried out by the Welfare Officer were numerous and varied. The most important was the caring for persons who were living in unhygienic conditions and in temporary accommodation. This included advising mothers regarding medical attention for their children; conveying them to and from the Brisbane General Hospital; making appointments at the Dental Hospital; arranging admissions to the Maternal and Child Welfare Homes when mothers were unable to obtain help in the home during confinement; investigating complaints made to her and to the Camp Caretakers, which were all settled satisfactorily.

Eleven temporary accommodation areas were inspected every week to ensure that they were kept reasonably clean. These areas are very much improved since the inspections commenced. The tenants are now most co-operative. State Rental Houses are also included in these inspections where necessary.

The urgent need of many families for accommodation has been submitted to the State Housing Commission and temporary housing found.

Another feature of welfare work is the care of unmarried mothers and deserted wives. In this respect assistance has been given by finding accommodation for the mother and child and, if necessary, employment for the mother and care of the child whilst the mother is at work.

H.M. Prison was visited and contact made with female prisoners. On their discharge suitable employment was found for many and every effort made to rehabilitate them.

For Commonwealth Social Services persons have been assisted to fill in invalid, age and widow's pension forms and child endowment applications, and, if the cases warrant it, appointments arranged with officers of the various sections of the Commonwealth Service.

Complaints regarding neglected children and children not attending school have been investigated, and where necessary, have been referred to the State Children Department.

During the gastro-enteritis outbreak, all cases in temporary housing areas were investigated. Most of these flats were spotlessly clean.

REGULATIONS.

The most important feature during the year was the amendment on 20th July, 1950, of "The Rat Prevention and Destruction Regulations of 1942," to which reference has been made earlier in this report. This amendment was published in the *Government Gazette* of 22nd July, 1950, and forbade the cutting of cane on low-lying areas until the Health Inspector in the area considered that a health hazard no longer existed. Prior to this amendment, if a canefield were wet and potentially dangerous, it could be given an incomplete or token burn, and cutting could commence forthwith whether the field was dry or not.

On the 13th July, 1950, "The Food and Drug Regulations, 1939" were amended by the addition of the words "or wrap" after the word "pack" in paragraph (10) of Regulation 88. This Regulation deals with the wrapping, packing, and serving of foods. The amendment was designed to ensure that foodstuffs are wrapped in clean brown or white paper, and was published in the *Government Gazette* on 15th July, 1950.

"The Poisons Regulations of 1947" were amended, on 12th October, 1950, by the addition of Tetraethylthiuramdisulphide (known as Antabuse) to Schedule I (Poisons) and Schedule IV (Restricted Drugs).

ACKNOWLEDGMENTS.

I desire to acknowledge gratefully the assistance given to me in the preparation of this report by my Deputy (Dr. D. W. Johnson).

Acknowledgement is due and is freely given to all members of the staff for their unfailing and conscientious attention to duty and for their tactful approach to problems that affect the public health.

Thanks are given to Government Departments, particularly to the Government Statistician (Mr. S. E. Solomon) for his assistance in preparing the section on Vital Statistics and for his courtesy in supplying other statistical information, frequently at short notice, and to the Department of Public Works for their ready co-operation in carrying out alterations and repairs.

A special word of thanks is due to the Victorian Government for the loan of respirators at a time when they were urgently needed in Queensland and not available elsewhere.

The Council of the Queensland Branch of the British Medical Association has given great assistance by bringing promptly to the attention of its members any requests made by me during the year.

ABRAHAM FRYBERG,

M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.)
Director-General of Health and Medical Services.

APPENDIX A.

POLIOMYELITIS IN QUEENSLAND, 1950-51. INCLUDING A REPORT ON AN UNUSUAL OUTBREAK IN THE GEORGETOWN DISTRICT.

History of Poliomyelitis in Queensland.

The history of poliomyelitis since 1910 in Queensland is shown in Table I., which lists the number of notifications in the fiscal years from 1911-12 until 1950-51, together with the attack rates per million of population. Fiscal years are chosen rather than calendar years because, until recently poliomyelitis was almost exclusively a disease of the warmer months of the year.

TABLE I.

Showing Notifications of Poliomyelitis in Queensland since 1911–12 together with Attack Rates per 1,000,000 population.

Year.	Notifications.			Mean Population.	Attack Rate per 1,000,000 Population.
	Extra Metropolitan.	Metropolitan.	Total.		
1911–12	5	..	5	625,170	8·00
1912–13	22	16	38	643,438	59·06
1913–14	3	3	6	667,785	8·98
1914–15	125	207	332	688,212	482·41
1915–16	23	4	27	690,494	39·10
1916–17	13	24	37	680,772	54·35
1917–18	11	2	13	688,946	18·87
1918–19	95	24	119	707,732	168·14
1919–20	10	7	17	737,462	23·05
1920–21	23	12	35	754,374	46·40
1921–22	11	14	25	769,180	32·50
1922–23	..	1	1	785,466	1·27
1923–24	5	3	8	804,442	9·94
1924–25	81	61	142	825,313	172·06
1925–26	9	30	39	847,757	46·00
1926–27	6	9	15	864,502	17·35
1927–28	3	1	4	877,753	4·56
1928–29	12	10	22	891,435	24·68
1929–30	4	6	10	903,703	11·07
1930–31	3	..	3	917,830	3·27
1931–32	181	131	312	930,456	335·32
1932–33	15	5	20	940,628	21·26
1933–34	6	5	11	950,462	11·57
1934–35	23	7	30	961,200	31·21
1935–36	12	2	14	972,767	14·39
1936–37	4	..	4	984,956	4·06
1937–38	103	57	160	996,448	160·57
1938–39	25	11	36	1,008,207	35·71
1939–40	12	2	14	1,021,426	13·71
1940–41	88	43	131	1,032,122	126·93
1941–42	11	2	13	1,036,690	12·54
1942–43	7	3	10	1,040,432	9·61
1943–44	7	2	9	1,054,810	8·53
1944–45	6	4	10	1,068,630	9·36
1945–46	324	105	429	1,084,125	395·71
1946–47	9	14	23	1,097,303	20·96
1947–48	20	6	26	1,112,732	23·36
1948–49	23	5	28	1,134,738	24·68
1949–50	8	6	14	1,163,084	12·04
1950–51	730	194	924	1,172,542	788·03

It will be seen that poliomyelitis has always been endemic in Queensland and the annual number of cases in inter-epidemic periods varies between 4 and 40.

Every few years, however, poliomyelitis has assumed epidemic proportions. For instance, in 1914-15, 332 cases were notified, followed by 119 cases in 1918-19, 142 cases in 1924-25, 312 cases in 1931-32, and 160 cases in 1937-38. A small outbreak in 1940-41 yielded 131 notifications. The relatively large outbreak in 1945-46 gave 429 notifications. For the year ended 30th June, 1951, 924 cases of the disease were notified in Queensland. This is the highest number of cases on record and also represents the highest attack rate when expressed in cases per 1,000,000 population.

The only outbreak that can compare with the present one was the outbreak of 1914-15, which had an attack rate of 482 per million of population, compared with 788 in 1950-51.

Practically all cases of poliomyelitis are reported. Up till 1946, however, only patients who developed paralysis were regarded as positive cases. During the 1945-46 outbreak the practice was adopted of accepting notifications of poliomyelitis without paralysis if the history of the illness was suggestive of poliomyelitis or if the patient developed a febrile illness following contact with a known case of the disease. Our records do not disclose the proportion of paralytic and non-paralytic cases during the 1945-46 outbreak, but the dissection of cases into paralytic and non-paralytic groups is given in Table II. in relation to the present outbreak.

FIGURE 1

Weekly Incidence of Positive Cases of Poliomyelitis, 1st October, 1950 to 30th June, 1951

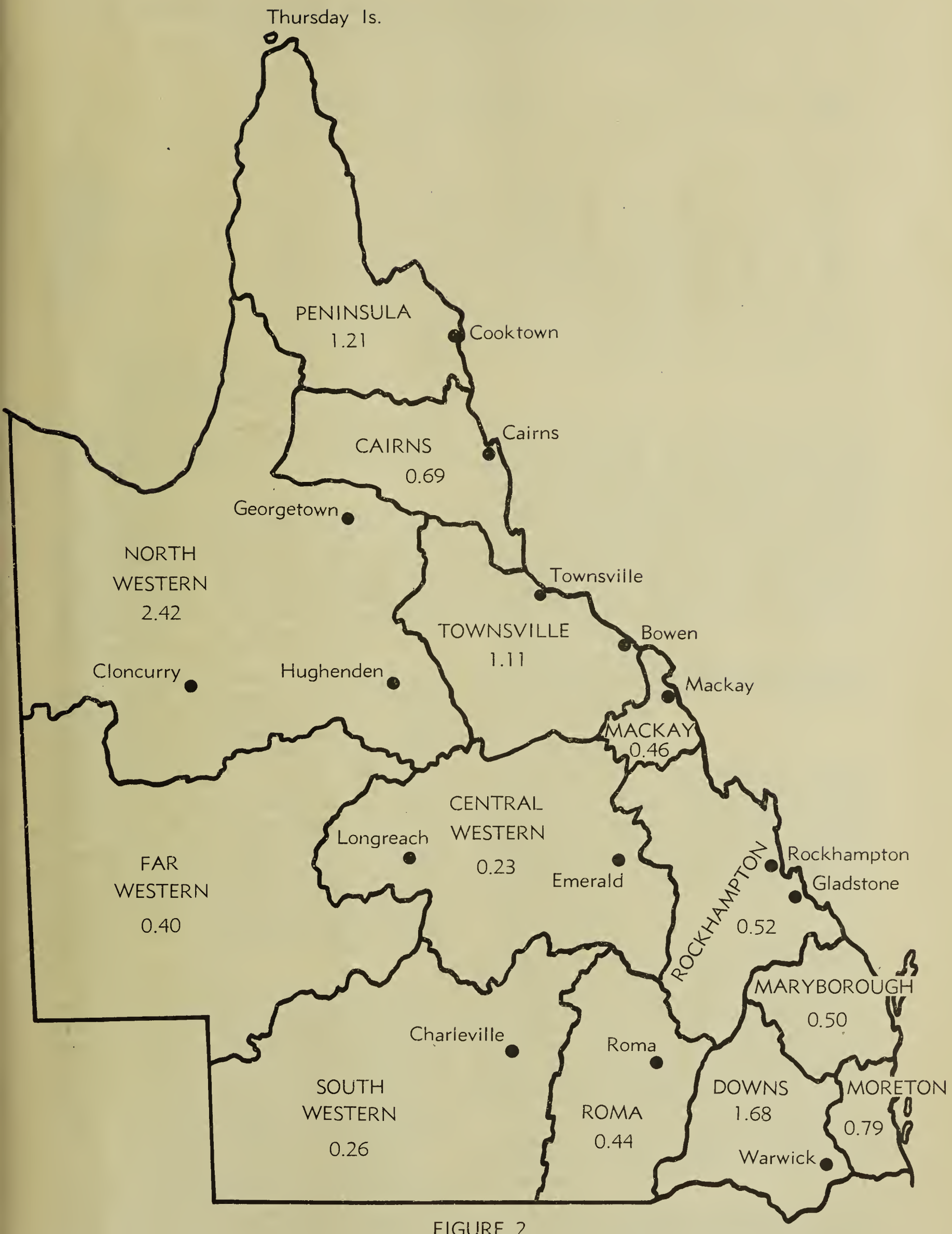


FIGURE 2

Showing Incidence of Poliomyelitis 1950-51
in Fourteen Statistical Areas of Queensland.
(Figures denote Proved Cases per 100,000 Population.)

TABLE II.

Showing Monthly Notifications of Poliomyelitis from 1st October, 1950, to 30th June, 1951, and their Dissection into Paralytic and Non-Paralytic Groups.

—	Proved Cases.									Negative.	Total Notifications.
	Metropolitan.			Extra-Metropolitan.			Whole State.				
	P.	N.	T.	P.	N.	T.	P.	N.	T.		
October	..	..	..	11	1	12	11	1	12	1	13
November	..	..	..	28	3	31	28	3	31	6	37
December	6	..	6	35	3	38	41	3	44	8	52
January	10	3	13	87	8	95	97	11	108	11	119
February	10	..	10	89	22	111	99	22	121	23	144
March	30	8	38	74	32	106	104	40	144	16	160
April	40	8	48	91	20	111	131	28	159	21	180
May	31	7	38	78	15	93	109	22	131	10	141
June	25	7	32	29	3	32	54	10	64	14	78
	152	33	185	522	107	629	674	140	814	110	924

P=paralytic poliomyelitis.
N=non-paralytic poliomyelitis.
T=total poliomyelitis.

It will be seen that 814 patients were accepted as having poliomyelitis, of whom 140 or 17·2 per cent. were non-paralytic.

History of the Present Outbreak.

The present outbreak is still continuing and it is hard to say just when it will end. It can be stated, however, that the first group of cases occurred in the Rockhampton-Yeppoon area during October, 1950. The disease then appeared quickly in other coastal areas north of Rockhampton, and thereafter cases were reported from most areas of the State.

In the Greater Brisbane area, the first cases did not occur until December, 1950. Figure 1 shows the weekly incidence of positive cases of poliomyelitis in the metropolitan and country areas of Queensland from 1st October, 1950, to 30th June, 1951. It will be seen that in the country there was a sharp increase in the number of notifications during the latter part of January, and it is interesting to note that this primary peak was reached before the opening of the schools after the Christmas vacation. The number of cases remained at a lower level during the second half of February and the first half of March, to be followed by a secondary peak of high incidence early in April. After May, the number of country cases commenced to decline.

The later appearance of the outbreak in the metropolitan area may be due to the higher proportion of immune persons in the city as compared with the country. Once the virus was introduced into the State, carriers of the virus would be much more likely to contact non-immunes in country areas than in the city. Therefore a larger concentration of virus and a larger percentage of carriers would be required to get the epidemic established in Brisbane.

In the metropolitan area the first peak of incidence was reached during the latter half of March, 1951, and it is interesting to note that a secondary peak was also reached in Brisbane during the month of July, although this is not shown in Figure 1.

Poliomyelitis is a disease where immunity appears to be readily introduced by subclinical infections. Once immunity is established it appears to be readily maintained by repeated exposure to infection. For instance, recent work in Baltimore indicates that 9 out of 10 persons over the age of 15 carry antibodies to at least one kind of poliomyelitis virus, whilst in Chicago it seems that city-dwelling adults are virtually immune to all types of virus by the time they reach the age of 20 years. In Chicago, it is believed that 3 to 4 per cent. of the population become infected annually, and that the ratio of reported cases to persons actually infected is probably in excess of 1 : 100.

Working on this basis, it can be expected that at least 100,000 persons in Queensland will have developed immunity to poliomyelitis before the present outbreak ends.

Geographical Distribution.

The Government Statistician has divided Queensland into 14 statistical divisions. Table III. shows the Local Authority areas which comprise each statistical division, the number of positive cases reported from each area, and the attack rate per 1,000 population of each statistical division. It also shows the number of cases notified in each statistical division during the 1945-46 outbreak.

Although the Downs Division, with 205 cases and an attack rate of 1·68 per 1,000 population, contributed the highest number of cases, the North-Western Division, with a small population of 17,000, had 41 cases, giving the very high attack rate of 2·42 cases per 1,000 population. Of these, the Cloncurry Shire with 26 cases and Etheridge with 10 cases headed the list. These two shires illustrate the severe effect of poliomyelitis when the virus is introduced to a relatively unimmunised population.

Figure 2 shows the attack rate per 1,000 population in each statistical division of Queensland.

There was no apparent correlation between the outbreaks of 1945-46 and of 1950-51. For instance, the statistical divisions with the highest attack rates in 1945-46 were Downs, North-Western, Roma, Moreton, Rockhampton, and Townsville. During 1950-51, the divisions with the highest attack rates were North-Western, Downs, Peninsula, Townsville, and Moreton.

TABLE III.

INCIDENCE OF POLIOMYELITIS FROM 1ST JULY, 1950, TO 30TH JUNE, 1951, IN THE FOURTEEN STATISTICAL DIVISIONS OF QUEENSLAND.

Statistical Division.	1950–51.		Attack Rate per 1,000 Population.	1945–46.	
	Proved Cases.	Population at 30th June, 1950.		Cases.	Attack Rate per 1,000 Population.
1. Metropolitan .. .. (Greater Brisbane area)	186	440,000	0·42	105	0·27
2. Moreton .. .. (City of Ipswich (5) ; Towns of Redcliffe (28) and South Coast (4) ; Shires of Albert (0), Beaudesert (4), Boonah (4), Caboolture (17), Esk (6), Gatton (9), Kilcoy (17), Laidley (0), Landsborough (9), Maroochy (8), Moreton (1), Pine (5), and Redland (4))	121	154,110	0·79	55	0·42
3. Maryborough .. .. (Cities of Bundaberg (1), Gympie (5), and Maryborough (10) ; Shires of Biggenden (0), Burrum (2), Eidsvold (0), Gayndah (2), Gooburrum (1), Isis (0), Kilkivan (2), Kingaroy (12), Kolan (0), Mundubbera (2), Murgon (5), Nanango (2), Noosa (1), Perry (0), Tiaro (4), Widgee (8), Wondai (2), Woocoo (0), and Woongarra (0))	59	117,970	0·50	23	0·21
4. Downs .. .. (Cities of Toowoomba (71) and Warwick (13) ; Towns of Dalby (6), and Goondiwindi (7) ; Shires of Allora (1), Cambooya (1), Chinchilla (9), Clifton (3), Crow's Nest (1), Glengallan (23), Inglewood (4), Jondaryan (4), Milmerran (5), Murilla (1), Pittsworth (7), Rosalie (8), Rosenthal (3), Stanthorpe (26), Tara (2), Waggamba (1), and Wambo (10))	206	122,250	1·68	101	0·96
5. Roma .. .. (Town of Roma (4) ; Shires of Balonne (2), Bendemere (0), Booringa (1), Bungil (0), and Wooroo (0))	7	15,950	0·44	7	0·43
6. South-Western .. .. (Town of Charleville (2) ; Shires of Bulloo (0), Murweh (0), Paroo (1), and Quilpie (0))	3	11,760	0·26	1	..
7. Rockhampton .. .. (City of Rockhampton (20) ; Town of Gladstone (0) ; Shires of Banana (4), Broadsound (0), Calliope (0), Duaringa (2), Fitzroy (0), Livingstone (9), Miriam Vale (0), Monto (3), Mount Morgan (0), Taroom (5), and Theodore (0))	43	83,390	0·52	30	0·40
8. Central Western .. .. (Shires of Aramac (0), Barcaldine (0), Bauhinia (3), Belyando (0), Blackall (0), Emerald (2), Ilfracombe (0), Jericho (0), Longreach (0), Peak Downs (0), and Tambo (0))	5	21,830	0·23	18	0·78
9. Far Western .. .. (Shires of Barcoo (0), Boulia (1), Isisford (0), and Winton (1))	2	4,980	0·40	..	..
10. Mackay .. .. (City of Mackay (4) ; Shires of Mirani (1), Nebo (0), Pioneer (11), Proserpine (1), Sarina (1))	18	39,480	0·46	9	0·28
11. Townsville .. .. (Cities of Townsville (34) and Charters Towers (3) ; Town of Bowen (2) ; Shires of Ayr (27), Dalrymple (1), Thuringowa (8), and Wangaratta (2))	77	69,540	1·11	30	0·41
12. Cairns .. .. (City of Cairns (15) ; Shires of Atherton (6), Cardwell (3), Douglas (1), Eacham (1), Herberton (1), Hinchinbrook (8), Johnstone (2), Mareeba (6), and Mulgrave (10))	53	77,210	0·69	20	0·28
13. Peninsula .. .. (Town of Thursday Island (3), and Shire of Cook (0))	3	2,390	1·21	..	..
14. North Western .. .. (Town of Hughenden (1) ; Shires of Barkly Tableland (0), Burke (0), Carpentaria (2), Cloncurry (26), Croydon (0), Etheridge (10), Flinders (0), McKinlay (0), and Wyangarie (2))	41	16,910	2·42	5	0·30
	824	1,177,770	0·72	..	..

FIGURE 3

Showing Incidence and Attack Rates according to Age Groups in Four Outbreaks of Poliomyelitis in Queensland

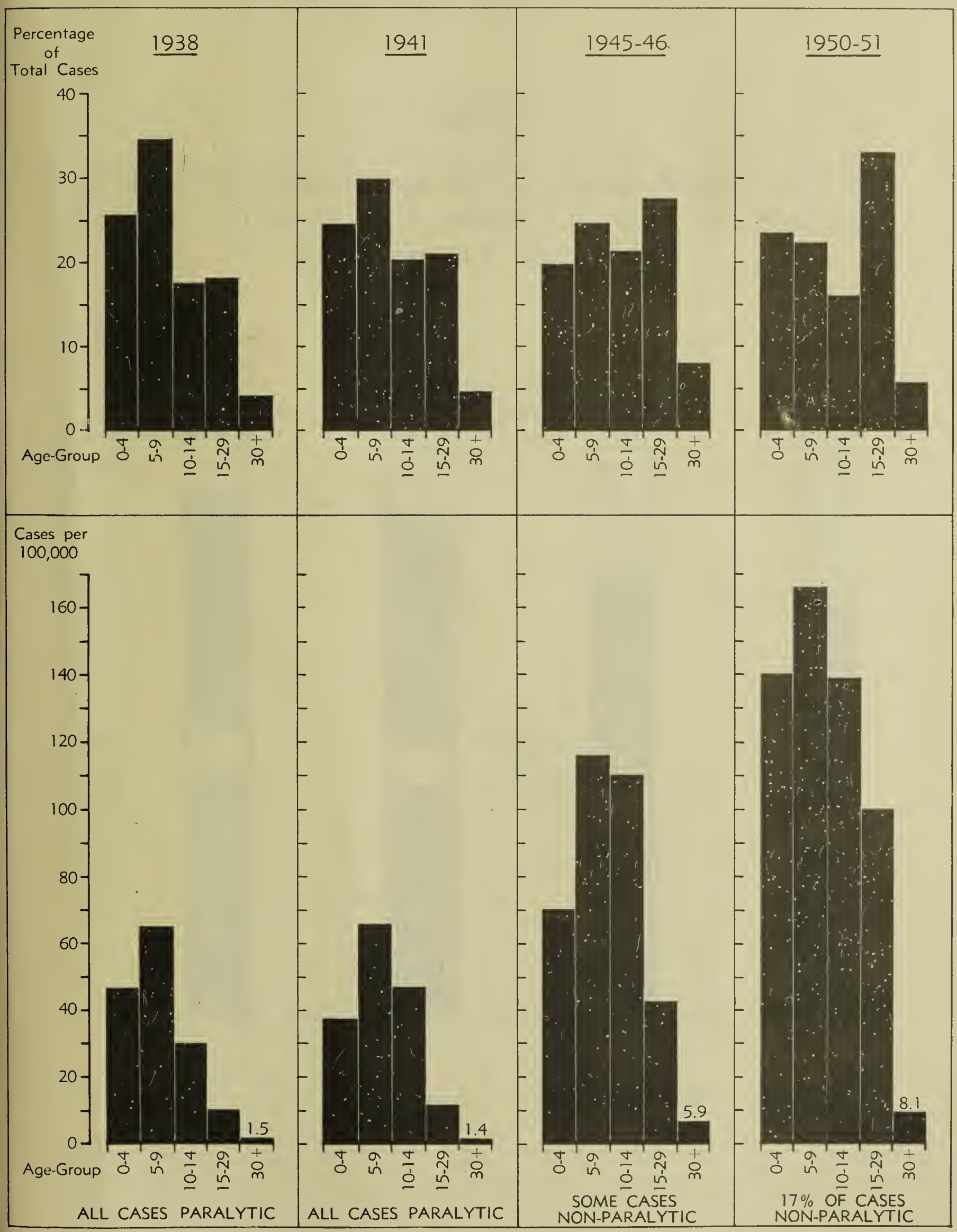
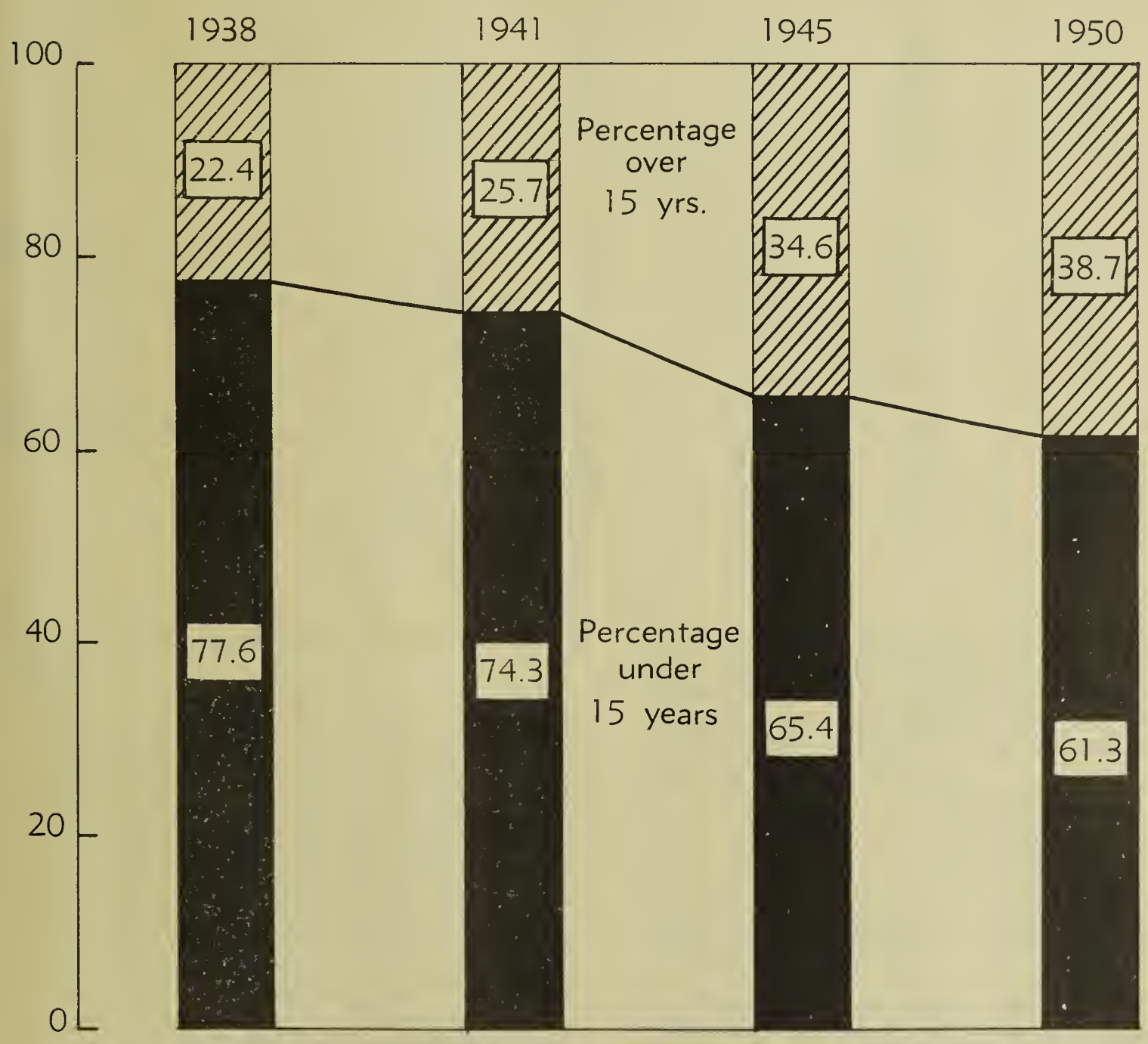


FIGURE 4

Showing Percentage of Cases of Poliomyelitis over 15 years and under 15 years of Age in Four Recent Outbreaks



The higher incidence of infection in rural areas is common to most countries of the world where poliomyelitis occurs in epidemic proportions. For instance, an epidemic in Sweden during 1936 disclosed that the attack rate in areas with widely-scattered dwellings was three times the rate experienced in more closely-settled areas, and similar observations have been made in the United States.

Age Distribution.

Table IV. and Figure 3 show the incidence and attack rates of poliomyelitis according to age groups in four recent outbreaks in Queensland.

TABLE IV.

INCIDENCE AND ATTACK RATES ACCORDING TO AGE GROUPS IN FOUR OUTBREAKS OF POLIOMYELITIS IN QUEENSLAND.

Outbreak.	Age Group.	Number of Cases.	Percentage in each Age Group.	Population in Age Group (thousands).	Attack Rate per 100,000 Population.
1938	0— 4	41	25·47	88·0	46·59
	5— 9	56	34·78	85·9	65·19
	10—14	28	17·39	93·3	30·01
	15—29	29	18·01	269·1	10·78
	Over 30	7	4·35	468·0	1·50
	All Ages	161	100·00	1,004·3	16·03
1941	0— 4	36	24·32	95·8	37·58
	5— 9	44	29·73	83·4	52·76
	10—14	30	20·27	87·9	34·13
	15—29	31	20·95	274·5	11·29
	Over 30	7	4·73	496·4	1·41
	All Ages	148	100·00	1,038·0	14·26
1945–46	0— 4	87	19·82	107·9	80·63
	5— 9	106	24·15	90·9	116·61
	10—14	94	21·41	84·2	111·64
	15—29	121	27·56	267·4	45·25
	Over 30	31	7·06	526·6	5·89
	All Ages	439	100·00	1,077·0	40·76
1950–51 (to 30–6–51)	0— 4	189	23·22	135·3	139·69
	5— 9	182	22·36	110·2	165·15
	10—14	128	15·72	92·4	138·53
	15—29	268	32·93	268·3	99·89
	Over 30	47	5·77	577·6	8·14
	All Ages	814	100·00	1,183·8	68·76

From this table, the following conclusions may be drawn:—

(1) The age group 5-9 years is the age group most likely to be attacked with poliomyelitis. Up till about 1930, the age group 0-4 bore the brunt of the attack. For instance, during an outbreak in Cincinnati in 1911, no fewer than 83 per cent. of patients were less than 5 years of age. Another outbreak during 1947 showed that only 40 per cent. of patients belonged to this age group. Many reasons have been advanced for the shift from childhood and infancy, but none is completely acceptable. However, better hygiene and living conditions during the early years of life, together with smaller families, in English-speaking countries, may be an important factor. Hammon has shown that the percentage of children with antibodies is less in small families than in large families, whilst children who live under slum conditions develop antibodies at an early age. Paralytic poliomyelitis is uncommon in the crowded Orient, and it appears that children in those countries may be exposed to infection early, developing immunity without paralysis.

(2) It seems that poliomyelitis is attacking more and more people over the age of 15 years. Of the total cases notified in 1938, 22 per cent. were patients over the age of 15 years; since then this percentage has increased as follow:—

1941	..	26 per cent.
1945-46	..	35 per cent.
1950-51	..	39 per cent.

This tendency to attack more adults and young adults is illustrated in Figure 4.

The present outbreak has shown a distinctly increased tendency to attack persons in the 15-29 age group, but it is unwise to draw definite conclusions from this at present because the outbreak is still in progress at the time of writing.

(3) During the last Victorian epidemic in 1949 it was demonstrated that as the epidemic progressed the proportion of cases in the older age groups increased. A similar tendency was shown in the Berlin epidemic of 1947, where the proportion of cases over 17 years of age increased steadily throughout the epidemic. An attempt has been made to

show whether a similar trend has occurred in Queensland. Metropolitan figures show no significant change in age groups as between the first three months and the second four months of the outbreak, but many infections are still occurring in the metropolitan area and any conclusions would be unreliable. In country areas, however, the epidemic showed a distinct wane by the end of June, 1951. Table V. shows notifications by age groups for the first five months (1st October, 1950, to 28th February, 1951) of the present outbreak, compared with those of the second four months (1st March, 1951, to 30th June, 1951). It will will be seen that notifications of poliomyelitis in children under 5 years of age declined from 27·5 per cent. in the first half of the outbreak to 17 per cent. in the second half of the outbreak. The percentage of children in the 5-9 age group remained stationary and the percentage of children in the 10-14 age group showed only a slight increase. On the other hand, the percentage of cases in the 15-29 age group increased from 29·3 per cent. in the first half to 37·7 in the second half of the outbreak. (Fig. 5.) It can therefore be stated that this outbreak is tending to reproduce the characteristics shown in Victoria and in Berlin. No satisfactory explanation can be given for this age shift. It could not be due to greater opportunity for exposure as this must have been present throughout the epidemic.

TABLE V.

Showing Notifications from the Extra-Metropolitan Area for the first five months and the second four months of the Outbreak, according to Age Groups.

Age Group.	First Five Months.	Percentage of Total Cases.	Second Four Months.	Percentage of Total Cases.
0— 4	79	27·5	58	17·0
5— 9	64	22·3	77	22·5
10—14	42	14·6	57	16·7
15—29	84	29·3	129	37·7
Over 30	18	6·3	21	6·1
	287	100·0	342	100·0

Mortality.

Seventy-two deaths were reported in 814 proved cases of poliomyelitis since 1st October, 1950, giving a percentage mortality of 8·8. The percentage of deaths in each age group is shown in Table VI., where it will be seen that the mortality increased rapidly with increasing age. For instance, in children under 5 years of age, the death rate was only 3·2 per cent., whereas in adults over the age of 30 the death rate was 21·3 per cent.

TABLE VI.

Showing Deaths and Death Rates according to Age Groups.

Age Group.	Deaths.	Cases (Proved).	Mortality.
			Per cent.
0— 4	6	189	3·2
5—14	20	310	6·7
15—29	36	268	13·4
30 and over	10	47	21·3
All ages	72	814	8·8

The greatest number of deaths occurred in January, 1951, with 19 deaths for 108 notifications, giving a mortality rate of 17·6 per cent. for that month. During this month explosive outbreaks of poliomyelitis associated with a high mortality occurred in isolated communities at Mount Spec, and the Georgetown district.

Relation of Paralytic to Non-paralytic Cases.

As stated earlier, 140 of 814 proved cases of poliomyelitis were regarded as non-paralytic, representing 17·2 per cent. of proved cases.

As the criteria for the diagnosis of non-paralytic poliomyelitis appear to vary in different parts of the world, it is advisable to set down the standard adopted in Queensland. A febrile illness with neck and back stiffness of sufficient severity to put the patient in bed or cause him to seek medical attention was the chief guide. If the patient was a contact of a known case of paralytic poliomyelitis, lumbar puncture was not necessarily performed although it was done in the majority of these patients. Where a patient was not a contact of a known paralytic case, lumbar puncture, at least in the larger hospitals, was invariably performed and if the cell count was normal the patient was not regarded as having poliomyelitis.

There is little doubt that almost all of the patients diagnosed as non-paralytic were suffering from an infection with a poliomyelitis-like virus although, of course, it was impossible to exclude viruses of the Coxsackie type.

An attempt was made to determine whether the percentage of non-paralytic cases increased in the various age groups as the epidemic progressed, but no definite increase could be established. The percentage of cases regarded as being non-paralytic in the various age groups is as follows:—0-4, 10·3 per cent.; 5-9, 21·3 per cent.; 10-14, 15·2 per cent.; 15-29, 16 per cent.; over 30, 10·3 per cent. Non-paralytic poliomyelitis is difficult to diagnose in young children, while medical practitioners are reluctant to diagnose poliomyelitis in patients over 30 years of age unless paralysis is present or unless the supporting evidence is very suggestive.

Sex Distribution.

Table VII. shows the number of males and females affected, both in the country and in the metropolitan area, in 814 proved cases of poliomyelitis from 1st October, 1950, to 30th June, 1951. In both areas more males were attacked than females. Perhaps this is an indication of the greater physical activity of male children.

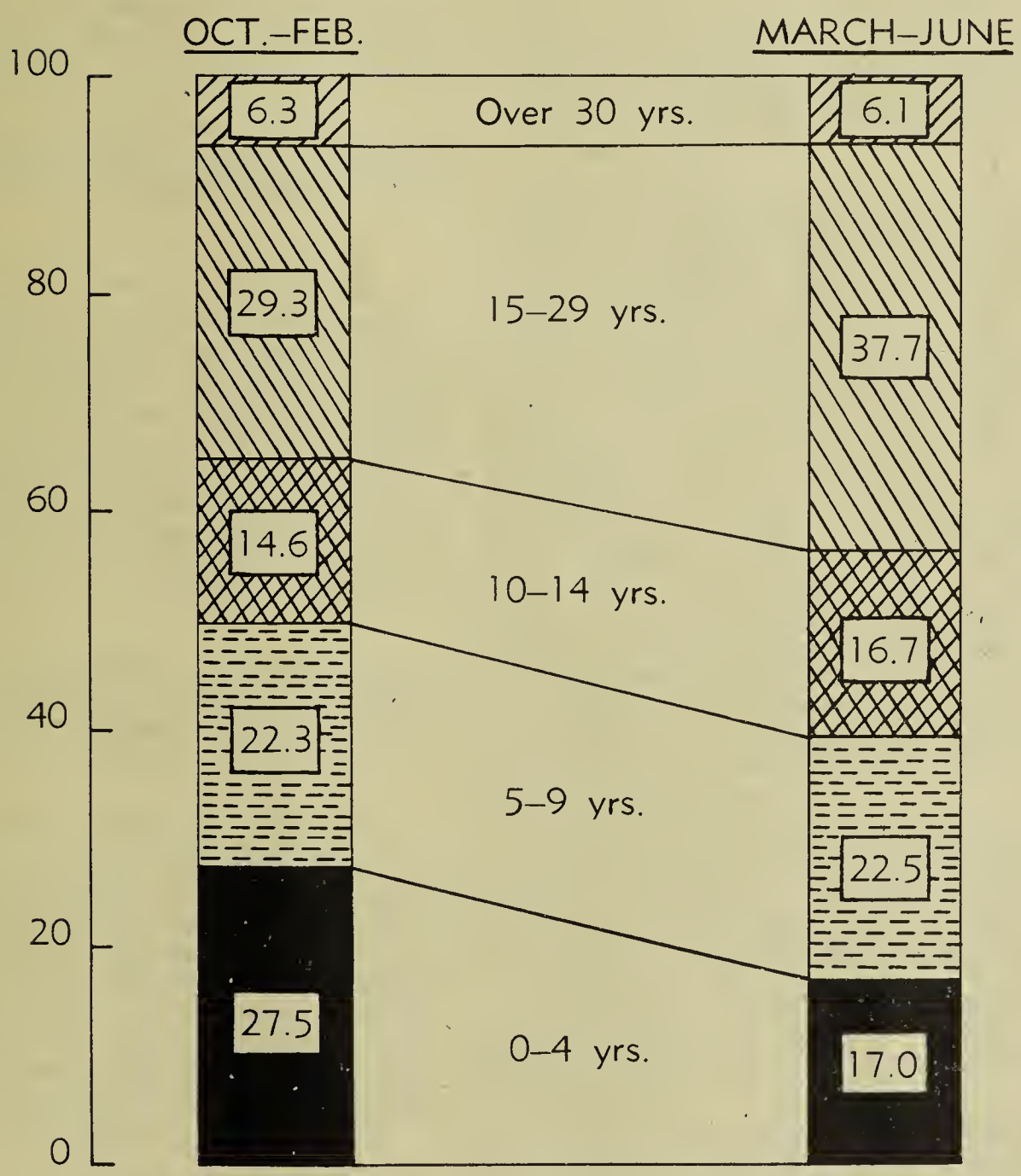
TABLE VII.

Showing Proportion of Males to Females.

—	Country.	Metropolitan.	Total.
Males	365	104	469
Females	264	81	345
Percentage of Males	58·0	56·2	57·6

FIGURE 5

Showing Percentage of Cases in Various Age Groups for the first Five Months (Oct.-Feb.) and for the second Four Months (March-June) of Present Epidemic.
(Extra-Metropolitan only.)



Occurrence of Cases in Sewered and Unsewered Areas.

In the Greater Brisbane area, information was obtained as to whether the premises from which a case was notified were sewered or otherwise. Of the 185 proved cases from 1st December, 1950, 84 or 46·4 per cent. occurred from sewered premises, whilst 101, or 53·6 occurred in the unsewered area. Population figures indicate that 45 per cent. of the metropolitan population lives in the sewered area of Brisbane. There was therefore no significant correlation between the incidence of poliomyelitis and the population living in unsewered areas.

These findings are in contrast with the distribution of Sonne dysentery, which occurred in Brisbane in 1950, and which was investigated by the Queensland Institute of Medical Research. In this outbreak the earliest cases were restricted to unsewered areas. Although later they occurred everywhere, two major foci still remained in unsewered areas.

It was also interesting to note that the first case and five out of the first six cases of poliomyelitis in Brisbane occurred in the sewered area.

It is difficult to be dogmatic but perhaps these contrasting findings might indicate that poliomyelitis is not commonly spread from the human intestine.

Multiple Cases in a Family or Household.

In this outbreak there were three instances where four members of a household were infected with poliomyelitis, one instance where three members of the same family developed the disease, and no fewer than 20 instances where a household provided two cases of poliomyelitis. This would appear to indicate either that certain families are more susceptible to the disease than are others, or that a high concentration of virus was present within the household.

During the 1950 outbreak of poliomyelitis in Wales, only eight instances were noted where more than one case occurred in the same household. The total of notified cases was 380.

Poliomyelitis and Prophylactic Injections.

During the year much public attention was focussed on the possibility of contracting poliomyelitis following prophylactic injections. All practising doctors were advised that it was wise to defer immunisation against whooping cough and diphtheria during an outbreak of poliomyelitis, and Medical Officers of Health were asked to discourage immunisation when poliomyelitis was prevalent in a Local Authority area until the cooler weather.

A child who is incubating the virus of poliomyelitis may develop paralysis within a month after prophylactic injection, often in the limb receiving the injection. Uncritical publicity has magnified the risk out of all proportion to the frequency of its occurrence. Recent work in England where immunisation against diphtheria was continued in a London area throughout an outbreak of poliomyelitis showed that no cases of poliomyelitis could be attributed to injections. A special immunising agent was used and children were immunised before the age of six months, when poliomyelitis is extremely uncommon. It appears that future developments along these lines will eliminate the risk of poliomyelitis following prophylactic injections.

Parents should bear in mind that the risk of a child contracting diphtheria is much greater than the risk of a child contracting poliomyelitis. Diphtheria was once a heavy reaper of children and this position might easily recur if parents are reluctant to have their children immunised against diphtheria because of a very remote risk of poliomyelitis.

Methods of Control.

Patients were isolated in a public hospital for 14 days from the onset of symptoms. They were then removed to an orthopaedic ward or a convalescent ward and visitors were permitted.

House contacts of a patient with poliomyelitis were isolated for 14 days from their last contact with the patient. This isolation applied only to persons under the age of 16 years. In a few instances, where an adult contact was found to be handling food for public consumption such as in a cafe, the contact was isolated for a period of 14 days under section 86 of the Food and Drug Regulations.

Before the present epidemic began, an Advisory Council on Poliomyelitis was appointed to advise the Minister and the public generally on any precautions that might be necessary during the course of an outbreak. The members of this Council were the Director-General of Health and Medical Services (Chairman), the Deputy Director-General of Health and Medical Services, Drs. F. Arden, H. Crawford, P. A. Earnshaw, S. Julius, J. Lahz, A. E. Meehan, A. E. Paterson, A. D. D. Pye, T. V. Stubbs Brown, and J. I. Tonge. Dr. A. Ashworth was also a member of the Council until May, 1951. The Council from time to time has issued pronouncements on such things as the opening or closing of schools, closure of enclosed swimming pools, and the movement of persons from areas where poliomyelitis was not present into areas where it was prevalent, and it issued a pamphlet on poliomyelitis to all practising doctors in Queensland.

The Queensland Health Education Council prepared a pamphlet outlining measures to prevent poliomyelitis. This was forwarded to every Local Authority which reported cases of the disease, and was distributed to the public.

In addition, the Press has published from time to time special articles outlining the present state of our knowledge of the cause and spread of poliomyelitis.

In general, the aim of control has been to adopt only those measures which could slow up the course of an outbreak. Closure of schools was not practised except in three instances. These schools were all in country areas where the only contact of the children with each other would be at the school.

Methods of Recording.

As soon as a notification of poliomyelitis was received a letter was written to the medical superintendent of the hospital to which the patient was admitted asking him for clinical details of the patient's illness, including the

results of tests, if any. Replies have been tabulated on cards, and an effort will be made to follow up the progress of every patient so that definite information can be gained about the extent of recovery or the presence of residual effects.

General Observations.

This was the most severe outbreak of poliomyelitis recorded in Queensland. The facts are presented here for study in the future, because it is by understanding all aspects of the epidemiology of poliomyelitis that control of the disease will come.

Health inspectors working in the field in country areas have made some valuable observations by tracing the spread of infection from case to case or from a visitor to a case. They will be encouraged to continue these observations in future outbreaks.

In conclusion, it might be advisable to recall to readers a statement made by Albert B. Sabin at the First International Poliomyelitis Conference in 1949, when he said: "It might perhaps be well to direct our attention to those parts of the world or regions of a country where the incidence of paralytic poliomyelitis has been consistently low for several decades, or consistently high, and look for factors in the way of life, the soil, water, diet or environment which have nothing to do with the dissemination of the virus or acquisition of specific immunity." It is all too true that we know very little about the manner in which poliomyelitis is spread.

The interesting outbreak in the Georgetown district, discussed in the next section of this report, may help to throw some light on the behaviour of poliomyelitis in areas where the disease seldom occurs.

Poliomyelitis in the Georgetown District.

The little town of Georgetown, with a population of about 125 people, is situated 180 air miles south-west of Cairns. It is the centre of the Etheridge Shire, which covers an area of 15,280 square miles, with a population of only 860. Other townships in the shire include Forsayth, Kidston, Einasleigh, and Mount Surprise. The district is almost exclusively devoted to cattle raising, and most of the people have infrequent contact with the more populous centres of the State. No cases of poliomyelitis occurred in the area during the 1945-46 outbreak, and the last case occurred in 1938. Consequently, the community level of immunity to poliomyelitis must have been low.

Race meetings were held at Georgetown on 26th, 27th, and 30th December, 1950, and again on 1st January, 1951. In addition, dancing and other entertainments were held at night. Visitors interested in racing and in meeting old friends came from coastal districts where poliomyelitis had occurred and mixed freely with the local population who flocked to Georgtown for the various gatherings. On 1st January, the first patient developed poliomyelitis.

The victim was C.C., a 12-year-old schoolgirl who arrived from Charters Towers by rail during the first week in December. She left Georgetown for her home at Robin Hood Station on 23rd December. Visitors arrived there for Christmas, and the girl became sick on 1st January. She was evacuated to Cairns by aerial ambulance on 4th January, and is still a patient at Cairns Base Hospital. She may have contracted her infection before she left Georgetown (a minimum incubation period of 8 days) or she may have been infected at her home a couple of days later.

The second patient was G.H., a stockman, aged 23 years, who worked at Gilbert River. He arrived in Georgetown on 23rd December, attended the races, and left for home on 1st January. He became sick on 3rd January while throwing a bullock which he had ridden 10 miles to capture, and was evacuated by aerial ambulance to Cairns Base Hospital, where he died of bulbar poliomyelitis on 8th January.

The third victim, C.S., aged 5, resided in Georgetown with his parents. He became sick on 4th January and was evacuated to Cairns the following day.

The fourth patient, R.R., aged 23, lived at Almaden. He visited Georgetown during Christmas week and was present at the races on 30th December. He left for Almaden on 3rd January. His car was bogged several times on the journey. He had a stiff neck and aching back on 7th January and was admitted to Mareeba Hospital, two days later, where he died on 11th January from bulbar paralysis.

The fifth patient, K.L., was a child aged 3 years. He arrived at Georgetown by plane from Cloncurry on 22nd December and developed measles the following day. His home was visited on several occasions by the first patient (C.C.) just before Christmas. He became ill on 9th January and was sent to Cairns three days later. He may have met the third patient (C.S.) at a Christmas party on 31st December.

The sixth patient was M.W., aged 22 years, who helped to nurse the first patient (C.C.) on 3rd January. She became ill on 10th January and on 17th January was sent to Cairns, where she died on 19th January, apparently from bulbar poliomyelitis.

The seventh case was N.C., a male aged 25, a brother of the first patient (C.C.). During Christmas week he visited Georgetown and on 1st January left his home at Robin Hood Station for work on the road. About 9th January, while taking his sister J. to Robin Hood Station, he had to swim a creek and walk about 10 miles across boggy country. He became feverish two days later but did not complain of stiffness of his back until 14th January. On 16th January the car taking him to hospital became bogged and he rode half-a-mile on horseback. The following day he had great difficulty in breathing and he died on 18th January, in spite of artificial respiration and a supply of oxygen which had been dropped from the air.

The eighth case was M.C., a male aged 15, brother of C.C. and N.C. mentioned previously. He lived with his sister at Robin Hood Station and helped to bring his brother, N.C., into Forsayth on 16th January. The following day he developed back stiffness. He was taken to Cairns on 18th January, where he died from bulbar paralysis

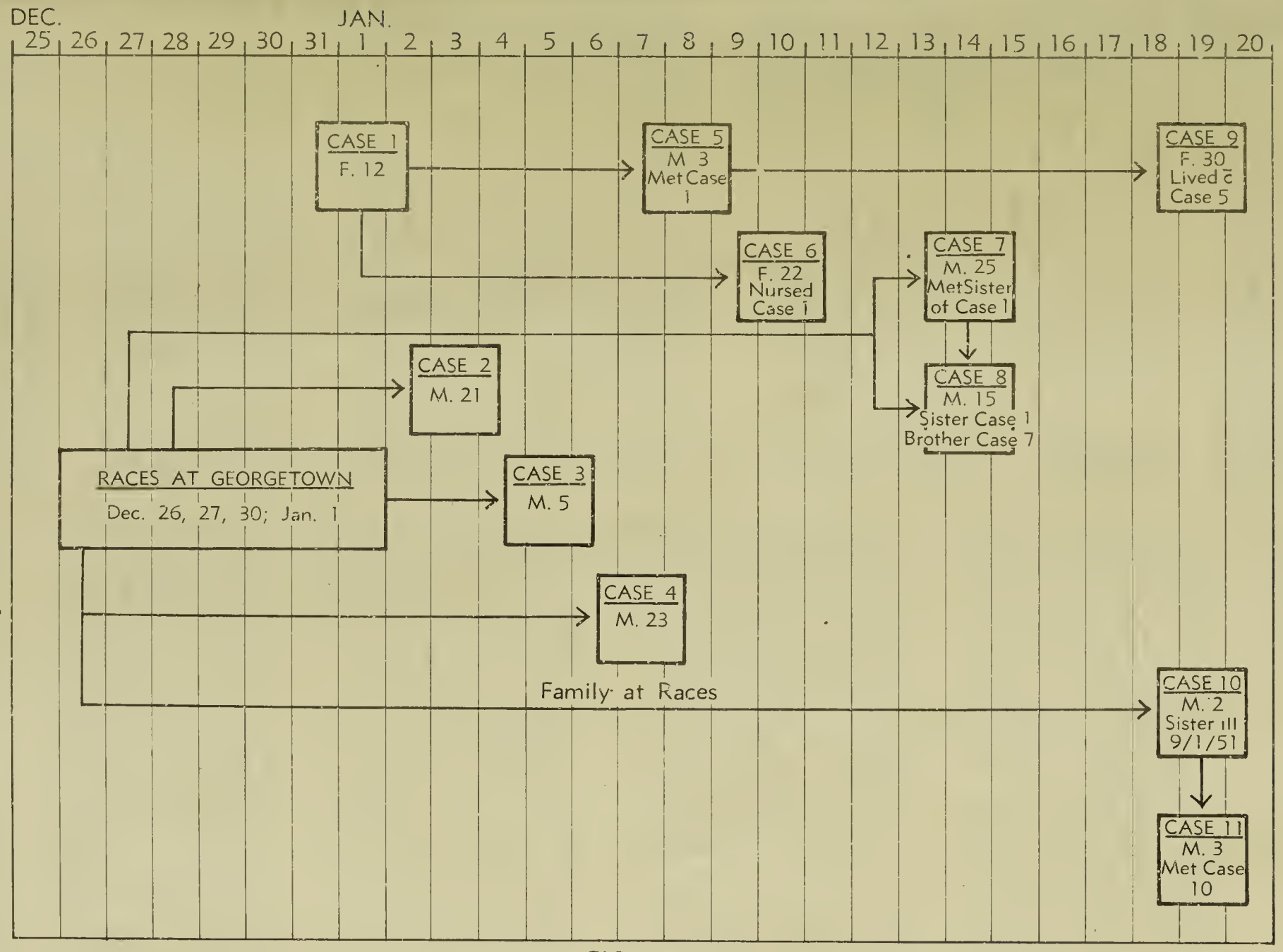


FIGURE 6

Known Contacts of Eleven (11) Cases of Poliomyelitis in the Georgetown District, 1951

The ninth victim was Mrs. E.C., aged 30 years, who lived in Georgetown in the same house as K.L., the fifth patient. She became ill on 19th January and was sent to Cairns the following day. She was 8 months pregnant and her baby was subsequently delivered by Caesarean section.

The tenth and eleventh patients both lived in Kidston, but the family of the tenth patient visited Georgetown for the races. The tenth patient was K.R., aged 22 months. His sister developed a mild febrile illness on 9th January but the patient did not become ill until 19th January. He was admitted to Cairns Hospital the following day.

The eleventh and last patient was L.K., aged 3½. There is no definite information of any contact with any other known case except perhaps with the tenth patient, K.R., in Kidston, He became ill on 19th January, and was evacuated to Cairns the following day.

It is interesting to note that several of these patients, notably the second (G.H.), the fourth (R.R.), the seventh (N.C.), and the eighth (M.C.), gave a history of hard physical effort just prior to the onset of symptoms. This may have been a factor in determining the severity of the disease in these patients. These patients all died.

Source of Infection.—It cannot be stated with exactness that the virus of poliomyelitis was brought to the Georgetown district by visitors who came to attend the race meetings. For instance, Case 1 left Georgetown two days before the first race meeting, but she could have met some visitors to the town before she left for her home on the station. However, several of the other patients were at the races—for instance, Case 2, Case 4, Case 7, and Case 8—while the family of Case 10 visited Georgetown for the races. Indeed, seven members of the C. family were present in Georgetown at the time of the race meetings.

Case 5 possibly contracted his infection from Case 1, although that would give an incubation period of at least 17 days. It is more likely that he had direct contact with some other carrier of the virus. Case 9 lived in the same house as Case 5 and became ill eleven days after Case 5, so it appears that Case 9 could have been infected by Case 5.

It is clear that the introduction of a virulent strain of poliomyelitis into a community whose susceptibility to the disease was high, resulted in an explosive outbreak of great severity.

Figure 6 attempts to trace the relationship of cases to the race meetings or to known cases of the disease.

Age Groups Involved.—It is worthy of note that of the 11 cases of poliomyclitis, 4 were in the 0-4 age group, 2 in the 5-14 age group, 4 in the 15-29 age group, whilst the eleventh victim was aged 30. The age groups most involved were, therefore, children less than five years of age, and young adults. Although it is not possible to push an argument too far with such a small series of cases, this tendency to attack the 15-29 year age group has also been noticed in sparsely-populated regions of Sweden (1930-1939) and on the island of St. Helena (1945-1946).

Measures taken to bring Medical Aid.—There is no doctor at Georgetown and the Georgetown Hospital is staffed by nurses from the pool at Cairns, but the in-patient average does not exceed two patients, the principal duties of the nurses being to attend out-patients and to be on call for emergencies. Patients requiring hospital treatment are normally evacuated to Cairns Base Hospital by aerial ambulance.

The first three patients were quickly transported to Cairns. The fourth patient was transported from his home at Almaden to Mareeba Hospital. When the fourth case occurred, a medical officer and an additional nurse were brought by air to Georgetown. It was not possible to transport a box-type respirator to Georgetown as these must be carried in large planes for which no landing strips existed. Furthermore, Georgetown had no electric power.

The doctor returned to Cairns a few days later, and on 18th January a medical officer from Mareeba Hospital visited Georgetown. This doctor made headlines by swimming flooded streams and riding on horseback over difficult country to attend patients at Forsayth. He remained in the Georgetown district until relieved by Dr. C. R. Lulham on 23rd January. Dr. Lulham's observations form the basis of this report.

Comments on the Outbreak.—Features of this outbreak were the probable low level of immunity in a sparsely-settled community, the severity of symptoms when they occurred, the high mortality (five cases out of eleven), and an apparent relationship between the fatal cases and severe physical effort which they had undergone about the time of onset of their illness.

This outbreak shows that poliomyelitis can spread with the rapidity of an infectious disease when conditions are favourable for its propagation.

The grim situation in the Georgetown district called forth all those qualities which make us proud of being British. Those individuals seeking to succour the afflicted and transport them

to the comparative safety of a modern hospital displayed compassion, courage, endurance, and resourcefulness in full measure. Perhaps the chief share of the credit should go to the ground parties who transported the victims over flooded roads and streams and who prepared landing strips for light planes. However, great courage and tenacity were shown by pilots of the planes belonging to the Cairns Aerial Ambulance and the Cairns Aero Club, which flew to these isolated places in weather that would normally have kept them grounded. The weather at times was appalling—roads were impassable, telephone lines were down, clouds were at tree-top level, and only the pedal radios kept communications open. When the Cairns aerodrome became unusable, one afternoon, a group of patients and relatives, together with an ambulance bearer, doctor, and three pilots, camped at an airstrip overnight in constant rain. Next morning, the Aerial Ambulance plane took the air after a dangerous run across the bogged field and arrived safely at Cairns with its three patients. Later in the morning, the two Aero Club planes followed.

The patients reacted to their illness and to the trying circumstances with great restraint. To them and to their relatives I express my sympathy and admiration. Those of us in Brisbane who heard of the visitation a thousand miles to the north listened to progress accounts of the rescue efforts with anxiety, but the weather prevented the full assistance that would otherwise have been forthcoming.

By Authority: A. H. Tucker, Government Printer, Brisbane.